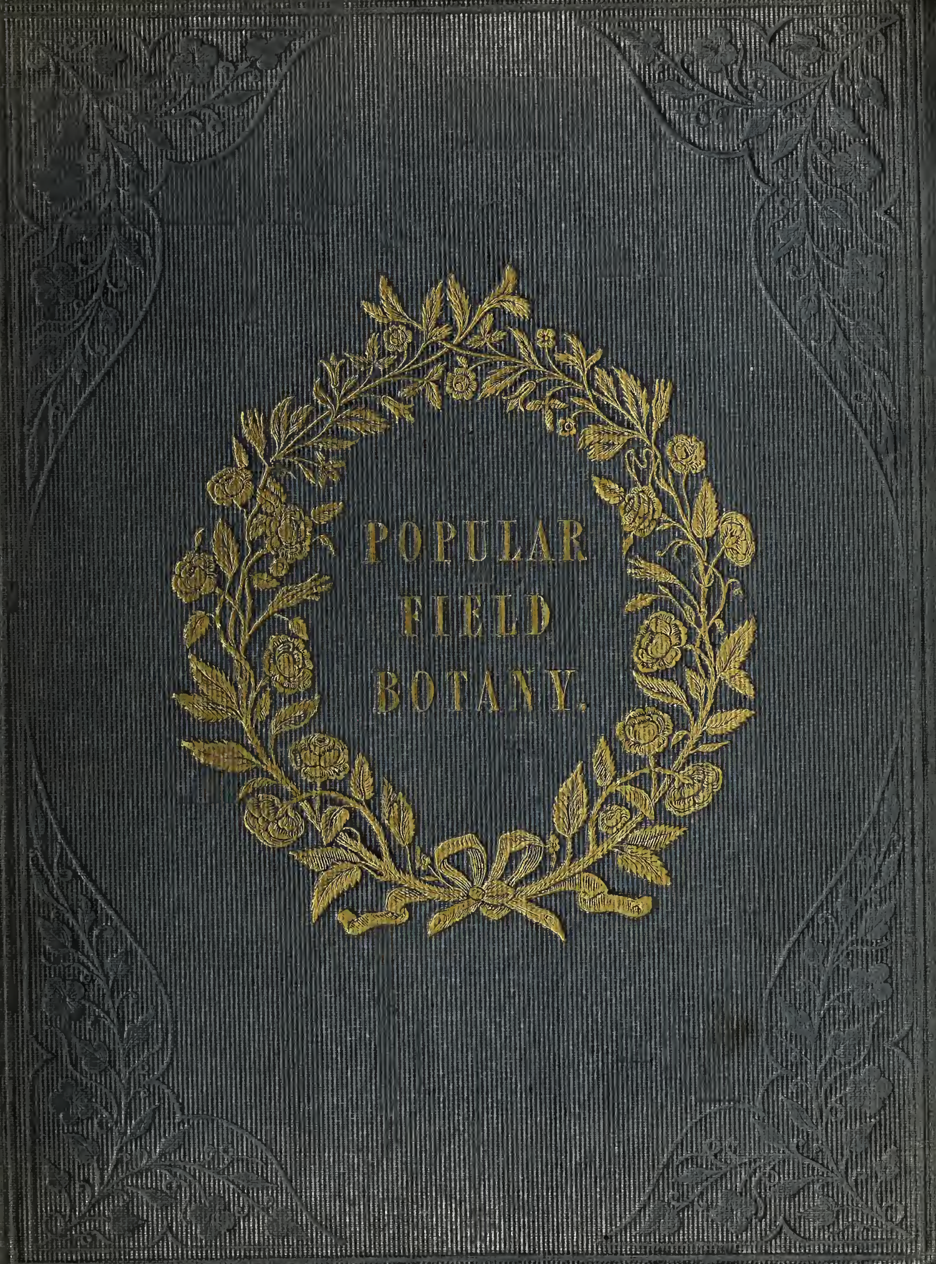

POPULAR FIELD BOTANY.

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POPULAR

FIELD BOTANY;

CONTAINING

A FAMILIAR AND TECHNICAL DESCRIPTION OF THE PLANTS MOST COMMON

TO THE VARIOUS LOCALITIES OF THE

BRITISH ISLES,

ADAPTED TO THE STUDY OF EITHER THE

ARTIFICIAL OR NATURAL SYSTEMS.

BY AGNES CATLOW,

Author of "Popular Conchology."

LONDON:
PRINTED AND PUBLISHED BY
REEVE, BENHAM, AND REEVE, KING WILLIAM STREET, STRAND.
1848.

NULLA DIES SINE LINEA.

REEVE, BENHAM AND REEVE,
PRINTERS AND PUBLISHERS OF SCIENTIFIC WORKS,
KING WILLIAM STREET, STRAND.

TO

C. M. AND J. L. ROGET,

THIS LITTLE WORK

IS MOST AFFECTIONATELY INSCRIBED,

BY THEIR

SINCERE FRIEND

THE AUTHOR.

Bridgelands,
Dec. 20*th*. 1847.

PREFACE.

Small and inexpensive works on Botany have been repeatedly published, but none calculated to be really and practically useful to children, or those commencing the study, if they wish to pursue the subject *unassisted* by botanists. There are many pleasing treatises on the subject, containing interesting information respecting the plants of which they treat; but it appears almost useless to detail all these circumstances to those who are unacquainted with the plants themselves. The first knowledge necessary is the name of the flower, and with this the information acquired is practically useful; without it, vague, and unsatisfactory. The object, therefore, of this introductory work is, to enable young persons with little difficulty to discover the scientific names of the common plants they may find in their country rambles; a few interesting facts are also given respecting their uses, habits, and peculiarities; and when more information is required, reference can be easily made to the valuable works of Sowerby, Hooker, and Lindley; those authors will then be clearly understood and fully appreciated. The 'English Botany' of Mr. Sowerby, to which this little volume forms a stepping stone, is perhaps the most useful, as it contains figures of every known British plant.

The present volume is suited to both the Linnæan or artificial, and the natural systems of classification, that either may be pursued. Chapter 1. introduces the subject, explains the plan of the work, and details the method of forming a *Hortus Siccus*. Chapter 2. treats of classification, giving tables of the natural and artificial systems; and explanations of the principal botanical terms. Chapters 3 to 10 contain accounts of the plants to be procured during the spring, summer, and autumnal seasons. And the concluding chapters are devoted to the Mosses, Lichens, and Sea-weeds.

ERRATA.

Page 18, line 8, for "Polygamia," read Polygynia.
,, 19, line 1, after "filaments in," add, two.
,, 37, The families of Aphyllæ are described in Chapters 11 and 12.
,, 41, line 5 from the bottom, for "shapes," read shape.
,, 86, line 7 from the bottom, for "powers," read flowers.
,, 88, line 4 from the bottom, after "mountainous," read countries.
,, 135, line 3 from the bottom, for "Heloscladium," read Helosciadium.
,, 141, for "Vaccinum," read Vaccinium.
,, 142, line 6 from the top, for "Cowberry," read Cranberry.
,, 167, to "Hieraceum pilosella," add Plate II. Fig. 43.
,, 220, for "Fig. 49," read 50.
,, 223, after "Spergula arvensis," add, Plate XIII. Fig. 51.
,, 276, last line, for "eaves," read leaves.

ENGLISH

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POPULAR

FIELD BOTANY.

CHAPTER I.

JANUARY.

Botany is one of the most pleasing branches of Natural History, and in some degree a necessary attainment for every well cultivated mind, as well as most beneficial in many ways to the young student. There is, however, no "royal road" to the science; that is,—a certain degree of study must be passed through, to enable any one to gain a tolerable idea of this interesting subject. If we wish to learn a language, we do not fancy that by looking over a grammar and dictionary we can attain sufficient knowledge to enable us to translate or speak freely, we must study daily a part of the language, and though at first all seems confusion, still with perseverance, a few points are gained, and then, using these as land marks, a thorough knowledge is gradually acquired. Such is the case with Botany. The classification answers the purpose of the letters, verbs, &c., in a language, and neither one nor the other, can be attained without these necessary elements being first mastered.

It is often remarked that Botany is difficult on account of the Latin names, but they are few in number, compared to the words in a language, and yet no one suggests this as an insurmountable difficulty in attaining French. If a science is worth learning, it is wise to begin properly, and study the alphabet as it may be called; and although I have said there is no "royal road" to Botany, I have endeavoured to render all as easy and simple as possible in this little treatise on the subject, by using English words instead of the technical terms wherever it is practicable.

No one must expect if they pursue Botany merely as a relaxation from more important studies, to be acquainted with it in a season. Botanists have been pursuing it for years, and if asked, would say they knew but little compared to what they wished to know; it would therefore be presumptuous in the young to expect that after a few trials only, they are to understand the subject thoroughly, for as it is impossible to arrive at a knowledge of any science or art without great pains, and considerable industry, (and Botany is not an exception,) the learner must be resolved to meet and overcome obstructions, which at the commencement appear rather alarming, but with a little attention the first difficulties will be found to vanish, for every step will smooth the way for another. When a little knowledge is obtained, the study becomes more and more interesting every day, each new plant is examined with eagerness, and the investigation is no longer toil, but positive pleasure.

If the possessor of this book will therefore at once follow the plan laid down, considerable improvement may be attained in a short time. Botany is easily pursued by those living in the country, and is not an expensive pleasure, whilst the thoughts connected with it are pure and refreshing, forming a delightful relaxation from more serious duties. It has the advantage of healthiness, for plants must be searched for out of doors; exercise is therefore united with study, which is an object in the present state of education. All children are fond of flowers, and one-half the design of teaching them Botany is that of exercising their understandings, accustoming them to attention, and giving them fresh instances of the wisdom and goodness of God. If the minds of children were more turned to these pursuits, and that curiosity about the things of nature which is implanted in their dispositions gratified, there would be less complaint amongst young people of the dulness of a few week's sojourn in the country, than is now too frequently the case. The close examination necessary to discover the genus and species of a plant, makes us acquainted with many beauties concealed from general observation, either by their situation or minuteness. We cannot pursue knowledge of any kind without enlarging our views, as well as acquiring new ideas, and Botany has the great advantage of elevating the mind whilst it improves and cultivates the intellect.

What can add so much to the pleasure of a ride or walk in the country, as a knowledge of the plants seen in the woods and hedges? or what more instructive to a child when it has gathered a pretty bunch of flowers, than to point out to it the extraordinary beauty of the minute parts, the contrivances for the ripening or preservation of the seed, or the uses of its roots or juices? Many useful moral lessons may be given to the young in a country walk if this pursuit is understood and appreciated. Some persons are disposed to think it a useless study, and to laugh at those who pursue it zealously, and ridicule them for showing great delight at the discovery of a new plant they have not before met with, but if they will compare this enthusiasm with their own in any favourite study, they will find the feeling similar. Unfortunately it is the custom to look on weeds with contempt, and to forget that they are equally the work of God with the planets or suns, and that every insignificant herb is a fresh proof of the wisdom and goodness of God in the Creation. As this little book is only intended for those who really wish to know something of this part of the works of nature, I need say no more by way of inducement, but turn to the object of the work.

The remainder of this chapter will be devoted to explaining the plan to be pursued, and the best method of forming a collection of dried plants, a *Hortus Siccus,* or *Herbarium,* as it is called, so essential to the thorough attainment of the knowledge of plants. The second chapter will give tables of the two systems of classification, and the explanation of the several parts of plants which ought to be known, so that the reader must be familiar with the contents of that portion, before any use can be made of the rest of the work. It is not meant that every part must be learned at once, but a general idea of it should be gained, so that it may be rendered serviceable when occasion calls it into use.

I would advise the young student first to refer to the Linnæan System, because it is so much more simple, consequently this work is principally arranged to suit it; afterwards the Natural System may be studied if desired, but this I leave to the choice of the reader. Sir James Smith, the learned botanist, says that "the Linnæan arrangement is above all other systems easy and intelligible"; and Loudon, that "it cannot be dispensed with in the present state of botanical knowledge." These are sufficient authorities for pursuing it at first, at all events.

We will now suppose that a plant is found in March, and that a desire is felt to know something of its history. The name, of course, must be first found; and to be enabled to discover this an examination must take place of its pistils and stamens, their situation and number, to discover its class and order. When this is done, turn to the class to which it belongs in the list for March, and by comparing one generic description with another and with the plant, in all probability little difficulty will arise. Supposing, for instance, the class is found to be *Icosandria,* in consequence of there being twenty or more stamens fixed to the calyx, and the order *Monogynia,* because there is but one pistil, then the plant will be found to be *Prunus,* and the species *spinosa,* as that is the only one in flower at that early season. If the Natural System is preferred, apply for the class, sub-class and order, to the table, and supposing the plant to be in the class *Exogens,* sub-class *Calycifloræ,* order *Rosaceæ,* refer to that order in March (of which there are only two examples), and the plant will be found to be the *Prunus spinosa,* as above; so that whichever system is used, the result will be the same. The generic and specific distinctions are very similar in both systems. If the name should fail to be found in some cases, either a great mistake has been made, the plant may be mentioned in the next month, or it is a more rare species than so small a work admits.* It should not, however, be thrown away, but preserved like the rest. When more knowledge is obtained, its resemblance to some other species may throw light on the subject, or some botanical friend may be able to assist.

When the name is found, attach a label to the specimen, noting also the month, and place where it was found, and put it into the press to dry, and during the next walk find more specimens, and apply the proper name, making new examination of the minute parts, and refreshing the memory with a repetition of the knowledge acquired the day before; the name will speedily become familiar by this method, and not easily forgotten.

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* To good botanists this work will appear imperfect, as not containing all the plants they are acquainted with, or might find; but to a young beginner it is better only to have what may be termed a vocabulary of the principal plants likely to be met with at first.

The best method of forming a Hortus Siccus, (which to those who are earnest in the pursuit is a very essential part of their duty), is to procure five or six quires of proper botanical paper which may be purchased at some stationers in London;* it is sometimes called grey paper, (though what I have used is brown), also a quire or two of white soft paper for the more delicate flowers, and two strong well-seasoned boards of the same size as the paper; the weight may be bricks, heavy books, or pieces of lead kept for the purpose. These materials form a good press, but the cushion of a chair or sofa in constant use answers the purpose as a temporary convenience. A proper botanical press is of course the best.

Plants for drying are better gathered in the middle of the day, than either morning or evening when they are wet with dew, and if possible they should not be put into water before being submitted to the press, as they by that means imbibe much moisture, and do not retain the colour so well. Select those for drying which have some flowers expanded, others gone to seed, and always preserve some of the lower leaves and the root if small. The characteristics are often shown conspicuously in the seed vessel and lower leaves, so that these parts are very essential.

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* It is manufactured by Messrs. Bentall & Co., of Halsted.

If the plant is delicate lay it with its flowers and leaves naturally spread out, between a sheet of white paper, if robust the common kind will do, and then place one or more sheets over, and so on till all are arranged, when they must be pressed. After being submitted to pressure for a day or two, they must be moved to fresh quires and this continued till dry; some require a week, others much longer, but experience will soon enable the young botanist to know when a plant is ready for the Hortus Siccus. When it is thoroughly dry, lay it on a clean sheet of white paper, and with little straps of gummed paper * secure it in the position most de-

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* Gummed paper may be kept ready for use, it is more convenient than using wet gum every time. A sheet of thin writing paper covered with rather thick gum, and dried, will last a considerable time, and the little straps may be cut when wanted.

sirable. Write the class and order at the top of the sheet, and the Latin and English names, with the locality and date at the bottom; and when many have been procured they may be arranged in classes for the convenience of reference.

A collection will thus be formed which will, at all events, serve to remind the possessor from time to time of the names and appearance of the plants already procured. If the youthful student has only been able to determine satisfactorily the names of thirty or forty plants in the course of the first season, out of several hundred which may have been gathered, without doubt the task will be thought worth pursuing the following season.

CHAPTER II.

FEBRUARY.

Those who are now first commencing this interesting study are already familiar with several plants, which will serve as so many points to begin with, and they will be very valuable in this respect. The *Violet, Primrose, Chickweed, Water-cress, Daisy,* and *Groundsel,* at least, are well known, and will illustrate several classes of plants. If those we are familiar with are first examined, with the descriptions given in their proper places, a little insight will be obtained into the method, and the progress afterwards will be found more easy.

The following terms, used in describing plants, must be known or referred to, when wanted, whilst the examination is going on.

A perfect plant is composed of *root, stem, branches, leaves, flowers,* and *fruit.*

The *root* is the part which fixes the plant in the ground, and is divided into *branches,* called *fibres,* when small, and *tubercles* when large and fleshy. The end, or point, of each fibre has the power of drawing or sucking up the moisture from the ground, and it is thence distributed to nourish the plant.

The *stem* grows from the root, and bears leaves and flowers; when thick and woody, and forming the base of the tree, it is called a *trunk*; the first divisions of which are *branches,* and the smaller ones *twigs.* A *bulb* is erroneously called a root, but the fibres at the lower part of it, as may be seen in the Hyacinth growing in a glass, are the real root, the bulb being the stem of the plant.

A *leaf* has *ribs* and *veins,* which branch in different ways; sometimes they form a kind of net-work, which is termed *reticulated,* as in the Currant leaf; and sometimes they run side by side along the whole length, when it is called a *parallel* leaf, as in the Lily and Tulip. The variety of form in leaves is truly wonderful, and they assume more shapes than it is possible to describe here. They are either in one piece, or divided into parts called *leaflets,* some doubly and trebly divided, and the parts of many so fine that they are like green threads. In some cases, as the Garden Pea, the middle rib is lengthened out into a *tendril*, which has the power of twining round objects placed near it and thus supporting the plant. These tendrils also spring from the stem in many plants. Many leaves have at the base of the stalk on each side a little leaf, differing in shape to the rest; this is called a *stipule*. The use of leaves is to convert the sap which they obtain from the stem into a new matter, which returns again, nourishing all the parts as it passes.

Thorns, *prickles*, and *stings*, are the terms given to the offensive parts of plants; and *hairy*, *woolly* and *clammy* substances are used for defence.

The *flower* is formed for the purpose of multiplying the plant by seed, and all the different parts, so beautiful in colour and shape, are for this purpose. The small leaves, out of which many flowers proceed, called *bracts* or *bractea*, preserve it when in a very young and delicate state. When a bract is large, and encloses many flowers, as in the Arum, it is called a *spatha*. When many bracts are collected together in a whorl round several flowers, as in the Dandelion, they are called an *involucre*, and the same term is used for the few leaves seen under an umbelliferous flower.

The *blossom* is arranged on the stalk in various ways. An *umbel* is formed by all the stalks proceeding from one point, as in the Cherry; and it is a compound umbel when each ray of the umbel is itself umbellate, as in Parsley. A *spike* is when all the flowers are scattered along a stem, having no stalks themselves, as in the Plantain. In a *raceme* the flowers have each a separate stalk fixed to the main stalk. A *scape* is a stem arising from the root, bearing nothing but flowers.

A *flower*, if complete in all its parts, consists of a *calyx*, *corolla*, *stamens*, and *pistils*.

The *calyx* is a whorl of leaves which are either separate from each other, or grow together in the form of a cup. It is always on the outside of a flower, and generally green, assists in protecting the more delicate parts of a flower, and often guards the seed when the petals have fallen away. It is either *inferior* or *free*, *superior* or *adherent*. In the former case, it is below the seed vessel, and grows free from the pistil, so as to leave the sides naked; and in the latter, it is above the seed vessel, and is united to the surface of the pistil, as in the Apple, where, after the fruit is gathered, the dried calyx may be seen at the top. In the Strawberry, the calyx is inferior, being below the fruit.

The *corolla* is the whorl of coloured leaves, and next the calyx, in the interior; when divided into parts they are called *petals*. These give the beauty to the blossom, and their office is supposed to be that of concentrating the heat from the sun upon the seeds which are forming within. White is the most proper for reflecting the heat; and it is chiefly bestowed on flowers which blow in cold seasons, as in the Snowdrop, Lily of the Valley, Anemone, &c. Dark rich colours are more common in warm seasons. There are no flowers entirely black, for in that case, their petals destitute of reflexion, would be useless. The coloured petals also attract insects, and by their motions assist in conveying the pollen from the stamens to the pistil.

A *stamen* is one of the parts which stands next the corolla inside, is usually of a yellow colour, and easily distinguished from the pistil, which stands erect in the centre, and is generally green.

It is formed of two parts: the *filament*, or narrow thread-like portion, which unites it to the flower (for it is either attached to the calyx, corolla, or seed-vessel); and the *anther*, or upper part, which is formed like a little box, and contains the *pollen*, which, when ripe, is shed on the pistil. The *pistil* occupies the centre of the flower, and is composed of one or several hollow parts called *carpels,* which are either distinct from each other or united into one. Each carpel consists of a hollow case, or *ovary,* extended at the point into what is called the *style,* which is tipped with the *stigma,* containing a sticky substance, to which the pollen adheres. In the carpels the seed is formed, and the style conveys a portion of the pollen to the young *ovules* or *seeds.*

The *fruit* is the ripe pistil, containing the seed, arrived at maturity. It is of various forms and substances; large and fleshy, as the Apple; juicy as the Currant; in pods, as the Pea; pulpy, with a stone, as the Plum; globular and hard, as in the Poppy, &c.

The *receptacle* is the part of the flower upon which all the rest are situated. The calyx is usually on its edge; the corolla, stamens, and pistils on the centre part.

The greater number of plants have all these parts, but some have no corolla, as *Chenopodium,* some no leaves, as *Cuscuta,* and others neither leaves nor stem, but the two combined; as *Lemna, Duckweed.*

Annual plants are those which are sown, produce seed, and die in the course of one year. *Biennial,* those which die the second year. *Perennial,* such as live for several or many years.

ARTIFICIAL SYSTEM.

The great naturalist, Linnæus, divided plants into twenty-four *classes*, arranged according to the number and situation of the stamens; these into *orders*, principally by the pistils, and the subdivisions are *genera* and *species*.

This method of classification is shown in the following table, and is to be used by the student after an examination has taken place of the number and situation of the stamens and pistils, and other peculiarities of the plant in question. For instance, if there are found five stamens and two pistils, it is in the class *Pentandria*, order *Digynia*; or if there are six stamens, two of which are shorter than the rest, and the pod left by those flowers which have withered or fallen off is long and narrow, then the plant is in the class *Tetradynamia*, and order *Siliquosa*. Reference must then be made to the body of the work, where if the plant is not very uncommon, an account of its habits and uses will be found.

CLASSES.	ORDERS.
1. Monandria.* 1 stamen.	Monogynia,† 1 pistil.

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* The first ten classes derive their names from the Greek numbers, and the latter part *andria*, may be considered as meaning stamens.

† The names of the orders are derived from the same source, and *gynia* may be considered as meaning pistil.

CLASSES.	ORDERS.
2. Diandria, 2 stamens.	Monogynia, 1 pistil. Digynia, 2 pistils.
3. Triandria, 3 stamens.	Monogynia. Digynia. Trigynia, 3 pistils.
4. Tetrandria, 4 stamens.	Monogynia. Digynia. Tetragynia, 4 pistils.
5. Pentandria, 5 stamens.	Monogynia. Digynia. Tetragynia. Pentagynia, 5 pistils. Hexagynia, 6 pistils. Polygamia, many pistils.
6. Hexandria, 6 stamens.	Monogynia. Digynia. Trigynia. Hexagynia. Polygynia.
7. Heptandria, 7 stamens.	Monogynia.
8. Octandria, 8 stamens.	Monogynia. Trigynia. Tetragynia.
9. Enneandria, 9 stamens.	Hexagynia.
10. Decandria, 10 stamens.	Monogynia. Digynia. Trigynia. Pentagynia.
11. Dodecandria, from 12 to 19 stamens.	Monogynia. Digynia. Trigynia. Dodecagynia. 12 pistils.
12. Icosandria,* 20, or more, on the calyx.	Monogynia. Pentagynia. Polygynia.
13. Polyandria,† many on the receptacle.	Monogynia. Pentagynia. Polygynia.
14. Didynamia, 4 stamens, two longer than the other two.	Gymnospermia, seeds 4, and naked. Angiospermia, seeds enclosed in a seed-vessel.
15. Tetradynamia, 6 stamens, four long, two short.	Siliculosa. Fruit a short pod or pouch. Siliquosa. A long, narrow pod.
16. Monadelphia, filaments united in one set.	Pentandria.‡ Decandria. Polyandria.

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* Fruit wholesome. † Fruit not safe to eat.

‡ All the following orders are distinguished by the number of stamens, instead of the pistils.

Classes.	Orders.
17. Diadelphia, filaments in sets.	Hexandria. Octandria. Decandria.
18. Polydelphia, filaments in three or more sets.	Polyandria.
19. Syngenesia, anthers united in a tube. Flowers compound.	*Æqualis.* All the florets perfect, both having stamens and pistils. *Superflua.* Florets of the centre perfect, those of the ray with pistils only. *Frustranea.* Flowers of the centre perfect, ray without either pistils or stamens.
20. Gynandria, stamens on the style.	Monandria. Diandria. Hexandria.
21. Monœcia, stamens and pistils in separate flowers, on the same plant.	Monandria. Diandria. Triandria. Tetrandria. Pentandria. Hexandria. Polyandria.
22. Diœcia, stamens and pistils in separate flowers on different plants.	Diandria. Triandria. Tetrandria. Pentandria. Hexandria. Octandria. Enneandria. Monadelphia.
23 Polygamia, stamens and pistils separated or united, on the same or on different plants.	Monœcia.
24. Cryptogamia, stamens and pistils not visible.	Filices. Equisitaceæ. Lycopodiaceæ. Musci. Algæ. Lichenes. Fungi.

NATURAL SYSTEM.*

Plants in the Natural system of De Candolle are divided into three great classes. *Exogens, Endogens,* and *Acrogens.*

I. EXOGENS.

Exogens include all those plants the stem of which contains pith, and the additions to the size are formed on the outside of the last layer: hence the name *exogens.* The veins of the leaves are branched, forming net-work, and the seed produces two primary leaves; the class is, therefore, called *Dycotyledonous.* It embraces most of our plants: Lilies, Grasses, Orchises, &c., excepted.

This class is divided into four sub-classes, *Thalamifloræ, Calycifloræ, Corollifloræ, Monochlamydeæ.*

1st Sub-class.

Thalamifloræ.—Flowers furnished with both calyx and corolla, the latter consisting of distinct petals, or Polypetalous. Stamens fixed to the sides of the ovary, or seed-vessel. It is divided into twenty-three orders, distinguished as follows.

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* If the reader wishes to study the Natural system of classification, the same care and attention are necessary as in the Artificial, and greater inspection and expenditure of time, for the parts to be examined are more minute in many cases, and require a good magnifying glass to help the sight.

1. *Ranunculaceæ.*—Divisions of the calyx and petals three, four, or five each. Stamens numerous. Anther valves straight. Carpels or divisions of the pistil more or less distinct.
2. *Berberidaceæ.*—Divisions of calyx, corolla, and stamens, six or eight each. Stamens opposite the petals, and equal to them in number. Carpel solitary. Anther valves bent.
3. *Nymphæaceæ.*—Divisions of calyx, petals, and stamens, numerous. Carpels combined into a pistil of many cells, with the seeds growing all over the sides of the partitions.
4. *Papaveraceæ.*—Divisions of calyx, two. Petals four. Stamens numerous. Carpels united into a pistil of one cell.
5. *Brassicaceæ* or *Cruciferæ.*—Divisions of calyx and petals four each. Stamens four long and two short. Fruit, a pod called siliqua, or silicula.
6. *Resedaceæ.* — Calyx much divided. Petals unequal. Stamens numerous (twelve to twenty). Stigmas three, sessile. Fruit dry and membranous.

7. *Cistaceæ.*—Divisions of calyx and petals five each, the latter crumpled. Stamens numerous. Carpels consolidated into a one-celled ovary.

8. *Fumariaceæ.*—Divisions of calyx two, falling off. Petals four. Stamens six, in two parcels opposite the outer petals. Stigma with two or more points. Carpel solitary or two united.

9. *Violaceæ.*—Flowers irregular, petals not being all alike. Divisions of calyx and petals five each. Stamens five. Anthers with a membranous crest. Carpels combined into a one-celled pistil. Style single.

10. *Droseraceæ.*—Flowers regular, petals all alike. Divisions of calyx, and petals five each. Stamens five. Carpels combined into a one-celled pistil. Styles three or five.

11. *Polygalaceæ.*—Divisions of calyx five, very irregular, two like petals. Petals three, unequal. Stamens eight, with filaments united. Carpels two-celled.

12. *Frankeniaceæ.*—Divisions of calyx four or five. Petals and stamens beneath the ovary, or lower part of the pistil. Carpels one-celled, inclosed in the calyx, many seeds.

13. *Elatinaceæ.*—Divisions of calyx 3–5. Petals alternate with them. Stamens usually twice as numerous as the

petals. Ovary with from three to five cells, and an equal number of styles.

14. *Caryophyllaceæ.*—Divisions of calyx and petals five each. Stamens five or ten. Carpels combined into a one-celled pistil. Stigmas several, distinct.

15. *Linaceæ.*—Divisions of calyx and petals four or five each, imbricated. Stamens eight or ten, united together. Carpels combined into a many-celled pistil, with pendulous solitary seeds.

16. *Malvaceæ.*—Divisions of the calyx five, and joined exactly by their edges before expansion, petals five. Stamens numerous, united by the filaments in a column-like manner. Carpels forming a many-celled pistil.

17. *Tiliaceæ.*—Like *Malvaceæ,* but stamens distinct.

18. *Hypericaceæ.*—Divisions of calyx and petals five each, dotted. Stamens numerous, and divided into more than two sets. Carpels forming a pistil with several cells. Style distinct.

19. *Aceraceæ.*—Divisions of calyx and petals five each. Stamens eight. Carpels forming a two-lobed, two-celled pistil. Style one.

20. *Geraniaceæ.*—Divisions of calyx and petals five each. Stamens ten. Carpels five, combined into a five-celled

pistil, and a long beak. Carpels elastic, ranged round the long beak.

21. *Oxalidaceæ.*—Divisions of calyx and petals five each. Stamens ten, united together. Carpels united into a pistil with five cells. Fruit bursting with elasticity. Stigmas distinct.

22. *Rutaceæ.*—Divisions of calyx and petals dotted, four or five each. Stamens four or five. Carpels in a four or five-celled pistil. Fruit like the last.

23. *Tamaricaceæ.* — Calyx four or five-parted. Petals withering. Stamens equal to the petals in number, or twice as many. Carpels three-valved.

2nd SUB-CLASS.

CALYCIFLORÆ. Flowers furnished with both calyx and corolla, the latter consisting of distinct petals. Stamens fixed on the calyx. It is divided into fifteen orders, as follows.

1. *Celastraceæ.*—Divisions of calyx imbricated, (lying over each other,) with petals and stamens four or five each; the latter alternate with the petals. Carpels united into a superior three or four-celled pistil. Disc large and fleshy.

2. *Rhamnaceæ.* Divisions of calyx, joined exactly by their edges before expansion, petals and stamens four or five each, the latter opposite the petals. Disc large and fleshy.

3. *Fabaceæ* or *Leguminosæ*.—Divisions of calyx and petals five each, the latter butterfly-shaped. Stamens ten. Carpel solitary, ripening into a legume, or pod.
4. *Rosaceæ*.—Divisions of calyx and petals four or five each. Stamens indefinite. Carpels distinct, more or less superior or inferior, ripening into a fruit, which is not a legume.
5. *Onagraceæ*.—Divisions of calyx joined exactly by their edges before expansion with two or four petals and two, four, or eight stamens. Carpels two or four united into an inferior many-celled ovary.
6. *Halorageæ*.—Calyx superior with a minute limb. Petals minute or wanting. Stamens equal in number to the petals. Ovary adhering to the calyx with one or more cells. Style none.
7. *Lythraceæ*.—Calyx tubular, strongly striated, its divisions as well as the stamens uncertain in number. Petals crumpled, inserted into the upper part of the calyx much above the stamens. Carpels two or four.
8. *Portulacaceæ*.—Divisions of the calyx two. Petals five. Stamens five or fewer, opposite the petals to which they adhere, or indefinite in number, and distinct. Seed-vessel one-celled, many seeded.

9. *Myrtaceæ.*—Calyx superior, four or five-cleft. Petals equal in number to the divisions of the calyx. Stamens twice as many as the petals, or more. Seed-vessel with four, five, or six cells.

10. *Crassulaceæ.*—Divisions of the calyx, petals, stamens, and carpels all distinct, and divided into some power of three, four, five, or six.* The carpels superior, opposite the petals, and many-seeded.

11. *Grossulariaceæ.*—Divisions of calyx, petals, and stamens, five each. Carpels united into an inferior one-celled pistil. Fruit a berry.

12. *Saxifragaceæ.*—Divisions of calyx, petals, and stamens, five each, or a power of that number. Carpels united into a pistil with two, many-seeded cells, and two diverging styles.

13. *Apiaceæ,* or *Umbelliferæ.*—Divisions of calyx, petals, and stamens, five each. The latter inserted round a double disc on the summit of the ovary. Carpels two, united into an inferior pistil with two cells, two ovules, and two styles. Fruit separating into two. Flowers in umbels.

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* That is to say,—the same number prevails in the calyx, corolla and stamens; supposing the number to be five, the number of stamens would be five, ten, or fifteen.

14. *Araliaceæ.*—Calyx superior, entire or toothed. Petals five to ten, falling off. Stamens equal in number to the petals, or twice the number. Ovary inferior, with more cells than two.
15. *Lorantheæ.*—No calyx. Petals four, fleshy, united at the base, each bearing an anther in the barren flower; in the fertile, the stigma is sessile. Parasitic.

3rd Sub-class.

Corollifloræ. Flowers furnished with both calyx and corolla, the latter with the petals united, or monopetalous. It is divided into twenty-five orders as follows.

1. *Cucurbitaceæ.*—Divisions of calyx, petals, and stamens, five each. Carpels united into an inferior one-celled ovary. Fruit fleshy.
2. *Cornaceæ.*—Divisions of calyx, petals, and stamens, four each. Carpels united into an inferior two-celled ovary, with solitary pendulous seeds, and a single style. Fruit a drupe.[*]
3. *Caprifoliaceæ.*—Divisions of calyx, petals, and stamens, five each. Carpels united into an inferior three-celled many-seeded ovary. Fruit not a drupe.

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[*] A *drupe* is a fruit with a hard stone covered with flesh, as the *Peach.*

4. *Galiaceæ.*—Calyx superior, four, five, or six-lobed. Corolla monopetalous, rotate, tubular, or regular, its divisions, and the stamens the same in number as those of the calyx, and alternate. Ovary two-celled.
5. *Valerianaceæ.*—Calyx with a membranous or feathery limb and naked. Anthers distinct. Ovary solitary, inferior, with one pendulous ovule or seed.
6. *Dipsaceæ.*—Calyx with a membranous or feathery limb, and double, forming a kind of involucre. Anthers distinct. Ovary solitary, inferior, with one pendulous ovule.
7. *Compositæ* or *Asteraceæ.*—Calyx with a membranous or feathery limb. Anthers united. Compound flowers.
8. *Campanulaceæ.*—Divisions of calyx, petals, and stamens, five each. Filaments broad. Ovaries united into an inferior many-celled, many-seeded pistil, with a thick hairy style.
9. *Ericaceæ.*—Divisions of calyx, petals, and stamens, four or five; the latter sometimes double the number. Ovary many-celled and many-seeded, one style, and one stigma.
10. *Monotropaceæ.*—Parasitical plants. Most of the characteristics of *Ericaceæ,* but seeds very minute, enclosed in a tubular skin. Stems leafless, or nearly so, but covered with fleshy scales.

11. *Aquifoliaceæ.*—Divisions of calyx four to six. Petals and stamens four or five. Ovary fleshy, superior, with from two to six cells. Fruit fleshy, with from two to six stones.

12. *Jasminaceæ.*—Calyx inferior. Corolla four-cleft, the divisions wrapping over by their edges, before expansion. Stamens two. Ovary two-celled and two-seeded. Ovules erect.

13. *Apocynaceæ.*—Calyx divided into five. Corolla five-lobed and twisted before expansion. Stamens five, arising from the corolla. Filaments distinct. Ovaries two. Styles two. Stigma one.

13. *Gentianaceæ.*—Divisions of calyx, petals, and stamens, four or five. Carpels united into a superior, one-celled, many-seeded pistil. Leaves ribbed and opposite.

15. *Polymoniaceæ.*—Calyx not divided. Corolla regular, five-cleft. Petals folding over each other at the edge. Stamens five, on the tube of the corolla. Ovary three-celled. Stigma divided into three.

16. *Convolvulaceæ.*—Divisions of calyx, petals, and stamens, five each, the first lying over each other at the edge in two rows. Carpels united into a superior, two or three-celled, few-seeded pistil, with erect ovules or seeds.

17. *Boraginaceæ.*—Divisions of calyx, petals, and stamens, five each, regular. Carpels united into a superior, four-lobed ovary. Four nuts.

18. *Labiatæ.*—Divisions of calyx and petals five each, two-lipped. Stamens two or four. Carpels united into a superior, four-lobed ovary. Four nuts.

19. *Solanaceæ.*—Divisions of calyx, petals, and stamens, five each. Carpels united into a superior, two-celled, many-seeded pistil.

20. *Scrophulariaceæ.*—Divisions of calyx and petals five each, irregular. Stamens two or four. Carpels united into a superior, two-celled, many-seeded pistil.

21. *Verbenaceæ.*—Calyx tubular, inferior. Corolla tubular, generally irregular. Stamens usually four, seldom equal. Ovary two or four-celled. Style one. Stigma sometimes in two.

22. *Lentibulariaceæ.*—Divisions of calyx and petals four or five each, irregularly united. Stamens two. Carpels united into a superior pistil with many seeds.

23. *Primulaceæ.*—Divisions of calyx, petals, and stamens, five each; the latter opposite the petals. Carpels united into a superior, one-celled, many-seeded pistil.

24. *Plumbaginaceæ.*—Divisions of calyx, petals, and stamens,

five each, the first plaited. Ovary solitary, superior, one-celled, with five stigmas.

25. *Plantaginaceæ.*—Divisions of calyx, petals, and stamens, four each, the latter inserted on the corolla alternately with its segments. Ovary sessile. Style simple and hair-like. Stigma hairy.

4th SUB-CLASS.

MONOCHLAMYDEÆ.—Flowers having no corolla, and sometimes even no calyx. It is divided into fifteen orders, as follows:—

1. *Sanguisorbeæ.*—Calyx tubular, lined with a disc, on the outside of which the few stamens are inserted. Carpel solitary, simple, one-seeded, when ripe enclosed in the hardened tube of the calyx. Stipules leafy.
2. *Chenopodiaceæ.*—Stamens opposite the divisions of the calyx. Carpel solitary, simple, one-seeded. No stipule.
3. *Polygonaceæ.*—Stamens not regularly opposite the parts of the calyx. Carpel solitary, simple, one-seeded. When ripe a three-cornered nut.
4. *Elæagnaceæ.*—Calyx tubular, with the stamens on the tube. Carpel solitary, simple. When ripe, a nut inclosed within the succulent calyx. Leaves scurfy.

5. *Thymelaceæ.*—Calyx tubular, stamens on the tube. Carpel solitary, simple, one-seeded; when ripe, a nut or drupe. Leaves smooth.
6. *Aristolochiaceæ.*—Calyx tubular, with three divisions. Stamens from six to ten. Ovary inferior, three or six-celled, ovules numerous. Style simple, stigmas radiating as numerous as the cells of the ovary. Fruit dry or succulent.
7. *Euphorbiaceæ.*—Stamens and pistils in different flowers. Carpels three, united into a pistil, which, when ripe, separates with elasticity into three shells.
8. *Empetraceæ.*—Stamens and pistils in different flowers. Stamens equal in number to the inner divisions of the calyx, and alternate with them. Anthers roundish. Ovary superior, three, six, or nine-celled. Style one. Stigma radiating.
9. *Urticaceæ.*—Stamens and pistils in different flowers. Stamens opposite the divisions of the calyx, and elastic. Carpel solitary, simple, one-seeded.
10. *Corylaceæ.*—Stamens and pistils in different flowers. Carpels two or more, inferior, united into a many-celled pistil, which, when ripe, becomes one-celled and one-seeded.

11. *Salicaceæ.*—Stamens and pistils in different flowers, or plants. Carpels two, united into a one-celled pistil, with numerous ovules, which, when ripe, become seeds, tufted with fine hairs.

12. *Betulaceæ.*—Stamens and pistils in different flowers. Carpels two, united into a two-celled pistil, which, when ripe, becomes membranous, with a single seed in each cell.

13. *Ulmaceæ.* Stamens and pistils in the same flower. Calyx lacerated, membranous. Carpels two, united into a two-celled pistil, which when ripe, becomes membranous, with a single seed in each cell.

14. *Myricaceæ.*—Stamens and pistils on different plants. Stamens six, rarely eight. Ovary one-celled, surrounded by several scales. Fruit in a drupe, often covered with waxy secretions.

15. *Coniferæ.*—Stamens and pistils in different flowers on the same or different plants. Carpels opening out into scales collected into cones or heads, or solitary, upon which grow the naked ovules.

ENDOGENS.

Endogens include all those plants the stem of which increases but little in thickness; it lengthens and becomes harder by the introduction of new wood in the interior: whence its name *Endogens*. The veins of the leaves are placed parallel, and the seed produces only one primary leaf, therefore the class is also called *Monocotyledonous*. Grasses are familiar examples. It is divided into two Sub-classes, *Petaloideæ* and *Glumaceæ*.

1st Sub-class.

Petaloideæ, divided into fourteen orders, as follows.

1. *Alismaceæ.*—Calyx divided into three. Petals three. Stamens on the ovary. Carpels several, distinct, with one or two seeds.
2. *Butomaceæ.*—Flowers in some measure like the last, but there are an indefinite number of ovules, or seeds.
3. *Juncaginaceæ.*—Calyx and petals both herbaceous, rarely absent. Stamens six. Ovaries three or six, superior, adhering firmly, ovules one or two. Fruit dry, one or two-seeded.
4. *Pistiaceæ.*—Flowers two, naked, inclosed in a spatha.

Barren flower, stamens definite. Fertile, ovary one-celled, with one or more erect ovules. Style short, stigma simple.

5. *Naiadaceæ.*—Divisions of calyx and petals minute, in a power of two, falling off, alike. Stamens in a corresponding number. Carpels distinct, one-seeded, same number as the stamens, or fewer.
6. *Orchidaceæ.*—Flowers with six divisions, irregular, calyx and petals alike in colour and texture. Stamens and style consolidated into a central column.
7. *Iridaceæ.*—Flowers like the last, but regular. Stamens three. Carpels three, united into an inferior three-celled ovary.
8. *Amaryllidaceæ.*—Flowers like the last. Stamens six. Carpels three, united into an inferior three-celled ovary.
9. *Liliaceæ.*—Flowers the same as the last. Stamens six. Carpels three, united into a superior three-celled ovary.
10. *Melanthaceæ.*—Flowers the same. Stamens six. Carpels three, superior, many-seeded, styles sometimes united.
11. *Araceæ.*—Stamens and pistils in different flowers, which are naked, having neither calyx nor corolla, inclosed in a spatha.

12. *Juncaceæ.*—Calyx and corolla forming an inferior six-parted flower. Stamens six. Ovary one or three-celled, one or many-seeded. Style one. Stigmas generally three. Fruit with three cells.
13. *Hydrocharaceæ.*—Divisions of calyx three. Petals three. Stamens definite or indefinite. Ovary single, inferior, one or many-celled. Stigmas three to six. Floating or water plants.
14. *Typhaceæ.*—Stamens and pistils in different flowers, incomplete, petals wanting. Stamens three or six. Anthers wedge-shaped, on long, weak filaments. Carpel solitary, superior, one-seeded.

2nd SUB-CLASS.

GLUMACEÆ, divided into two orders, as follows.

1. *Cyperaceæ.*—Flowers having the appearance of the husk of corn. No calyx or corolla. Stem solid. Leaves with an undivided spatha.
2. *Graminaceæ.* Flowers glumaceous, that is, like corn. Stem hollow. Sheath of the leaves slit on one side.

ACROGENS.

Cryptogamic plants are known by their having no conspicuous flowers, as Ferns, Mosses, Lichens, Sea-weeds, &c. They are divided into two classes *Foliaceæ*, producing distinct leaves, and *Aphyllæ*, leafless.

FOLIACEÆ contains, *Filices*, *Equisetaceæ*, *Musci*, and *Jungermanniaceæ*.

APHYLLÆ contains, *Lichenes*, *Fungi*, *Algæ*, *Characeæ*, and *Marchantiaceæ*.

The orders of *Foliaceæ* will alone be mentioned here.

1. *Filices.*—A distinct stem and leaves, usually the latter divided into numerous pieces, marked with forked veins, and rolled up when young. The productive organs either on the backs of the leaves, or on the margin, or wrapped up in contracted and deformed leaves.
2. *Equisetaceæ.*—A distinct stem, furrowed, hollow, and branched in a whorled manner. Leaves in the form of hollow sheaths, toothed. Reproductive organs in cones, and consisting of a spore, surrounded by filaments twisted spirally.
3. *Bryaceæ.*—A distinct stem, covered with simple, imbricated, veinless leaves. Reproductive organs con-

tained in cases closed with a lid, called operculum, and covered by an extinguisher-shaped cap, called calyptra. The mouth of the case usually closed by teeth.

4. *Jungermanniaceæ.*—A distinct stem, covered with scale-like leaves. Seed cases without calyptra, or operculum, and splitting into four valves, within which are numerous spiral threads, with seeds, or what are supposed to answer the same purpose.

These descriptions are taken principally from Lindley's "School Botany": a valuable work to those who wish to study the Natural System of De Candolle. The technical terms have in most instances been rendered into English to make the study in a degree more easy.

CHAPTER III.

MARCH.

How delightful is the first breath of spring felt, or rather anticipated, in this month; the bitter winds, frosts and snows begin to yield to the force of the sun, and the hope that we may soon again wander in the fields and lanes is revived, and our accustomed rambles impatiently looked forward to as a source of real delight. Though every contented and well-regulated mind may find pleasure out of doors, during even the dreary weather of the winter months, still those fond of botanizing must welcome the period when they may return from a walk, laden either with their old favourites (which revive memories of the past) or with new species, whose peculiarities they may be anxious to examine. There is not a purer or more improving pleasure than that of the examination of plants, for every investigation will open new beauties to the observer, and many an insignificant weed (as we may deem it), if brought home and examined with a magnifier, astonishes us by its extraordinary formation. I advise young botanists to examine minutely all the plants they gather, even if they know not their names, because this close inspection familiarises them with their different parts, which knowledge they will find very useful as they advance in the study. The endless variety astonishes the thinking mind, and we are continually struck with the purpose and foresight displayed, by what appear trifling peculiarities. Something new is constantly found, and our admiration and gratitude are continually called forth.

A tender green is now beginning to spread over the fields; the grass shoots forth, and the trees and herbs seem as if awakening from a deep sleep. Those trees which last month were only showing naked boughs now begin to put forth buds, and the various appearances of nature announce the return of spring. It is interesting to watch the gradual clothing of the banks and hedge-rows with plants, where every thing before seemed dead; and if each plant as it blossoms is examined with the aid of the following list and short descriptions, I think, at the end of the season, sufficient pleasure and profit will have been derived from the study to make it available as an amusement, and lead the young botanist to consult more elaborate works on the subject.

The plants are arranged according to their classes, and occasionally species not *strictly* belonging to the month, are inserted, rather than separate them from the first mention of the genus to which they belong. In the time of flowering I have been guided by Hooker, Macgillivray, and my own observations.

DIANDRIA. MONOGYNIA.

COROLLIFLORÆ. SCROPHULARIACEÆ.

VERONICA. (SPEEDWELL.)

Generic Character. *Calyx* and *corolla* growing below the seed-vessel. The *petals* four, lower one narrower than the rest. *Seed-vessel* with two cells, and if this be well examined, the shapes will be found so peculiar, that all the other species of the genus may be easily known by it.

One species of this pretty genus makes its appearance early, the rest are later in showing flower. It is found commonly from March to December, and grows almost everywhere in cultivated fields, under hedges, and among rubbish. The calyx after the flowering is over, is a beautiful object for the magnifier as it is fringed with long hairs.

VERONICA HEDERIFOLIA (Pl. I. Fig. 1.). *Ivy-leaved Speedwell,* is a small creeping plant with leaves broadly heart-shaped, five-lobed. Divisions of the calyx, heart-shaped, acute, and with hairs at the edge. Flowers small, pale blue, with deeper blue lines, not growing in branches, as several of the species, but solitary. Corolla divided into four unequal parts, the lowest being the smallest.

The shape of the leaves, and the calyx easily distinguish it from others of the genus.

TRIANDRIA. MONOGYNIA.

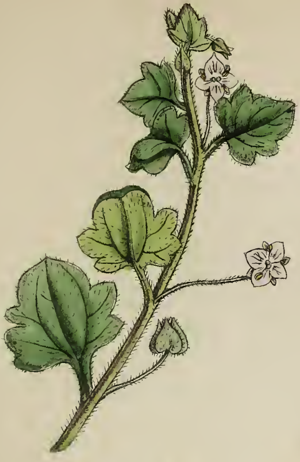
PETALOIDEÆ. IRIDACEÆ.

CROCUS. (CROCUS.)

Generic Character. *Corolla* cut into six equal parts, the tube very long and funnel-shaped. *Stamens* three, *pistil* divided into three at the top. *Leaves* and *flowers* arise immediately from the bulb.

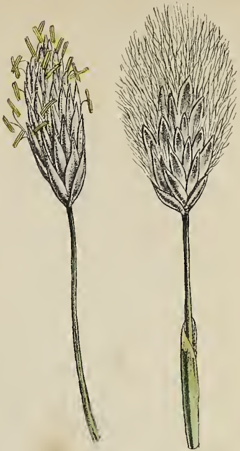
This well-known flower appears in our gardens very early, even amid the snows of January and February. It is a

1.



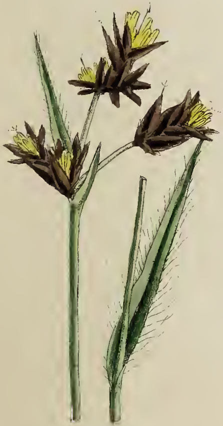
Veronica hederifolia. Linn.

2.



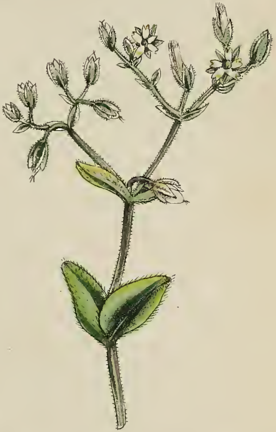
Eriophorum vaginatum. Linn.

3.



Luzula campestris. Willd.

4.



Cerastium semidecandrum. Linn.

[illegible]

favourite visitor, by giving us hopes of spring, and though its appearance is, on the whole, stiff and formal, it is universally admired. The petals expand during the day, and close at night. No flower is more sensible to the effects of light and heat, for it will open even if exposed to the light of a lamp; and the heat of a fire will have a sensible effect upon it. We have six species growing wild in England, but most of them are supposed to be naturalized here (that is, introduced from other countries); as they are now, however, frequently observed in several parts of the country, they must be mentioned.

Crocus vernus. *Purple Spring Crocus,* is distinguished by its stigma (the upper part of the pistil) being divided into three short, jagged wedge-shaped lobes; and also by its peculiar colour. It has been long naturalized about Nottingham, in the meadows and fields.

Crocus minimus. *Least purple Crocus,* and Crocus aureus. *Golden Crocus.* These two species are found in a park, at Barton, in Suffolk, and are supposed not truly wild, but as they are mentioned in botanical works, it is as well to obtain specimens if possible. The latter is beautiful on account of its glowing colour, it has its stigma shorter than the stamens, the first has it longer.

The autumnal species *Crocus sativus* will be described in its proper place.

TRIANDRIA. MONOGYNIA.

GLUMACEÆ. CYPERACEÆ.

ERIOPHORUM. (COTTON-GRASS.)

Generic Character. Leafy, rush-like plants, with the seeds imbedded in long silky hairs.

One species of the interesting plant called Cotton-grass may be found early in the season. The flower expands now, but the seed, which is the conspicuous part and attracts the eye at a distance, is scarcely seen till next month. The silky covering of its seeds might serve as the softest imaginable lining to a bird's nest, but whether it is thus used I do not know. Nothing can be more beautiful than this appendage to the seeds of this genus; at a distance on the boggy heaths, where the plant grows, it looks like little locks of wool floating with the wind, but on examination its substance is found to be considerably more fine and soft. It is extremely white and glossy, and, being as soft as down, is in some places used for stuffing pillows. It is probably brittle, and therefore cannot be manufactured into any article of clothing, but as cattle are fond of its leaves, I could almost wish that the farmer cultivated this pretty plant, that we might see whole fields of these waving feathers. As it grows usually in boggy places, some difficulty is experienced in reaching it, but it is quite worth a little trouble, and will reward the young botanist both in a fresh state for inspection, and also as a pretty specimen for the collection, as it dries very well. Mrs. S. C. Hall must allude to this plant in her interesting work called "Ireland, its character, scenery, &c." Her guide up one of the mountains of Kerry brought her a "bunch of rushes, in all the downy beauty of their seed, and then blew off the down, which floated away like a small flake of snow." In a note is added, "We have seen scores upon scores of bogs, looking like waving fields of snow from the immense quantity of this beautiful down, which floats its own seeds over the earth. It contrasts so well with the dark earth and the still darker mountains. The people sometimes gather it for *quilting*, that is, to use as we use wadding. We thought that a little ingenuity might convert it to a more beneficial purpose." There are seven species, but only two are found at this early season, and the others are uncommon.

ERIOPHORUM VAGINATUM (Plate I. Fig. 2). *Hare's-tail Cotton-grass.* The stem triangular at the upper part, leaves long and narrow, spike of flowers, oval and solitary on the stalk. It is found on turf bogs and barren moors, rather plentifully from March to May.

ERIOPHORUM ANGUSTIFOLIUM. *Common Cotton-grass.* This species is handsomer than the last, on account of there being many spikes on the same stalk. It is indeed a beautiful plant, with its brilliant white tufts. The stem is nearly round, leaves narrow and triangular, and the hairs of the seeds very long. The spikes are rather pendant than erect, and are therefore very elegant. I would advise a diligent search to be made on turfy bogs for this singular plant, but it must be late in the month, for it scarcely flowers till April, though, thinking it better not to separate it from the last species, I mention it here.

PENTANDRIA. MONOGYNIA.
COROLLIFLORÆ. PRIMULACEÆ.

PRIMULA. (PRIMROSE).

Generic Character. *Corolla* of one petal, salver-shaped, that is, lying flat and open at the top, and divided into five heart-shaped *petals*, tube cylindrical, *calyx* of one leaf divided into five.

This plant derives its name from the Latin word *Primus* (first), as appearing earlier than other plants, and claims to be an universal favourite in consequence. It is as much prized for its early appearance as for its beauty, for no sooner is the snow melted and spring weather looked for, than it puts forth its welcome blossoms. It is often found in sheltered lanes as early as February, but is in March and April considered in perfection. In Scotland it lasts quite into the summer, but probably in that more northern region does not commence flowering so early as with us. The *Polyanthus* of our gardens is derived from plants of this genus, and shows how great a change can be effected by cultivation. *Auriculas* are a species of *Primula* brought from Switzerland. Three species are found in the spring.

PRIMULA VULGARIS. *Common Primrose.* The generic character describes this species, and the peculiar colour of the corolla is well known. Each flower grows on a long stalk, but if they are traced to the bottom they will be found to be joined, and to spring from one stem like the *Cowslip*. The leaves are toothed and wrinkled. Woods, hedges, and banks produce it in abundance.

PRIMULA VERIS. *Common Cowslip.* This is not so universally found as the last; it requires a clay soil, and is but rarely found in Scotland. Its flowers are small, and on short foot-stalks springing from a main stem. The corolla not so completely salver-shaped as the *Primrose*. The leaves toothed, wrinkled, and contracted below the middle.

PRIMULA ELATIOR. *Ox-lip Primrose.* This species partakes of the appearance of both the above plants. The flowers are pale yellow, the centre deeper, corolla flat, and smaller than in the common *Primrose*, but growing in an umbel. Leaves wrinkled and contracted about the middle. It is not very common, and grows in woods and hedges, occasionally found in March, but flowering principally in April and May.

PENTANDRIA. MONOGYNIA

THALAMIFLORÆ. VIOLACEÆ.

VIOLA. (VIOLET.)

Generic Character. *Calyx* of five leaves. *Petals* five, unequal, the inner one spurred at the base. *Stamens* five. *Pistil* one.

The modest *Violet* must now be mentioned, another universal favourite, and perhaps still more so than the last genus on account of the sweet smell of one of its species. Seven species of this interesting genus are found in Britain, and as they may all be gathered, or at least the first five, by the industrious botanist, I shall fully describe them in their proper seasons.

VIOLA ODORATA. *Sweet Violet.* The blossom is generally of a deep purple, though sometimes white; in parts of Devonshire it is found of a lilac colour, owing to the red soil. In many lanes and hedge-banks in Sussex no purple sweet Violets are to be found, they are all white, and in great profusion. It has heart-shaped leaves, which are smooth, those of the calyx obtuse at the end, whilst in the scentless species they are sharp-pointed. Root creeping.

The Turks make a sweet drink, which they call Sorbet, from Violets and sugar. Lightfoot, an old Scotch herbalist, advises the ladies to make them into a cosmetic, for he says, "Anoint thy face with goat's milk in which Violets have been infused, and there is not a young prince on the earth who will not be charmed with thy beauty." Pliny, the naturalist, says that Violets worn about the head prevent head-ache; but in many cases the scent has been known to cause illness. This species makes its appearance in March, the others rather later.

Pentandria. Digynia.

Monochlamydeæ. Ulmaceæ.

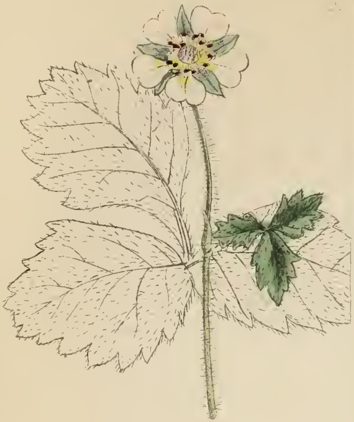
ULMUS. (Elm.)

Generic character. *Calyx* of one leaf wrinkled and permanent, divided into from four to six segments, internally coloured. No *corolla. Stamens* projecting beyond the calyx. *Seeds* solitary.

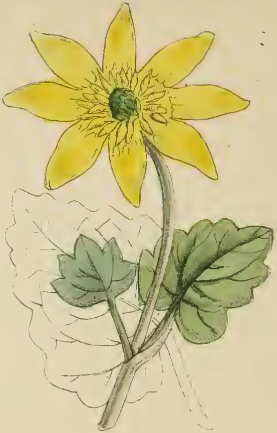
The Elm comes into flower in this month, and seven species are mentioned in botanical works as natives of this country; but some are very doubtful, and others are only sparingly found. They are large handsome trees, but their timber is of less value than Oak, Chesnut, or Fir. It is tough and strong, but apt to warp and shrink.

Ulmus campestris. *Common small-leaved Elm.* Its leaves are oval and acute, doubly serrated or cut, smooth above and downy beneath. Flowers in dense heads, each having a small scale or bractea. Calyx of one leaf divided into segments, internally coloured. It is a large tree, with rugged bark and spreading branches, and grows in woods in the South of England. Ray says the common Elm is not found indigenous north of Lincolnshire.

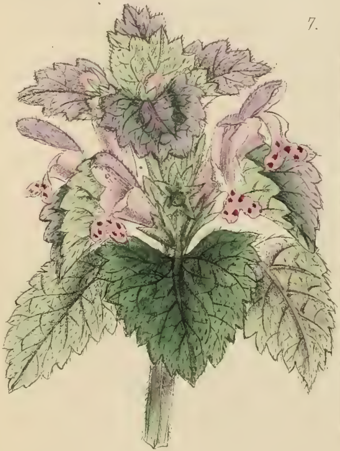
Ulmus montana. *Broad-leaved Wych Elm.* Leaves larger and broader than the last species, flowers stalked,



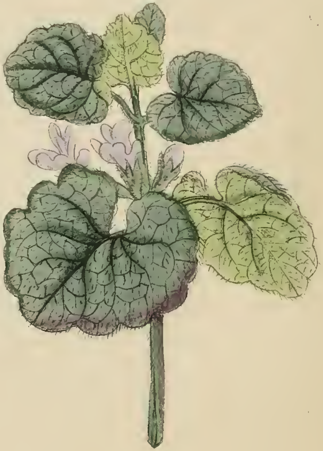
Potentilla Fragariastrum, *Ehrh.*



Ranunculus Ficaria, Linn.



Lamium purpureum, *Linn.*



Glechoma hederacea, *Smith.*

Reeve, lith. et imp.

tufted, five or six-cleft. A large spreading tree growing in woods in England and Scotland.

HEXANDRIA. MONOGYNIA.

PETALOIDEÆ. AMARYLLIDACEÆ.

GALANTHUS NIVALIS. (SNOWDROP.)

Generic Character. The *blossom* composed of six pieces, three shorter than the outer three, which are more spreading. *Leaves* two, broad and long, and of a light green. *Flowers* solitary, drooping and elegant.

The Snowdrop is found wild in some places, but is scarcely thought to be indigenous, though Mr. Sowerby considers it so. Gerarde calls it "white bulbous violet". I need not describe this well-known plant, it is found as early as February in woods, orchards, meadows, &c.

HEXANDRIA. MONOGYNIA.

PETALOIDEÆ. AMARYLLIDACEÆ.

NARCISSUS. (DAFFODIL.)

Generic Character. Flower without *calyx*. *Corolla* divided at the top into six. *Petals* egg-shaped pointed and flat. *Nectary* of one leaf. *Pistil* longer than the stamens. *Stamens,* three longer than the rest.

This handsome plant makes its appearance towards the end of the month, at least the species mentioned below; the other two are later, nearly confined to sandy soils, and supposed not to be indigenous. They have both white flowers.

NARCISSUS PSEUDO-NARCISSUS. *Common Daffodil.* This has yellow flowers, the six egg-shaped petals being pale, and the nectary which is in the centre of a deeper colour. The latter is of one leaf, and funnel-shaped. The flowers are solitary on the stalk. It grows in woods and thickets in England and Ireland. When cultivated the petals are very numerous.

HEXANDRIA. MONOGYNIA.
PETALOIDEÆ. JUNCACEÆ.

LUZULA. (FIELD-RUSH.)

Generic Character. *Calyx* of six oblong acute permanent leaves, three of them internal. No *corolla.* *Filaments* thread like. *Anthers* oblong, erect, and two-celled. *Stigmas* three, tapering, and downy.

This plant is usually found in this month, but often overlooked by the unobserving, though quite worthy of notice.

LUZULA CAMPESTRIS. (Plate I. Fig. 3). *Field-rush.* Its leaves greatly resemble grass, but are clothed with silky hairs, and its small flowers are of a reddish-brown, collected into an oblong spike, and standing nearly erect; the whole plant being from three to ten inches high. It grows in dry pastures, and way-sides.

DECANDRIA. PENTAGYNIA.

THALAMIFLORÆ. CARYOPHYLLACEÆ.

CERASTIUM. (CHICKWEED.)

Generic Character. *Calyx* of five egg-shaped, acute, permanent leaves, membranaceous at the edges. *Petals* five, divided, obtuse, about the length of the calyx.

A small species of this genus is found in dry places, in sandy soils, on wall tops, &c., and withers away early.

CERASTIUM SEMIDECANDRUM. (Plate I. Fig. 4). *Little mouse-ear Chickweed.* The leaves oblong and ovate. The flowers in a loose cluster, petals slightly cut. Stems generally branched, spreading at the base, three or four inches high, leaves and stem hairy, very clammy, and generally covered with particles of dust.

ICOSANDRIA. MONOGYNIA.
CALYCIFLORÆ. ROSACEÆ.

PRUNUS. (THORN.)

Generic Character. *Calyx* inferior and five-cleft. *Petals* five, roundish and spreading, larger than the calyx. *Nut* very hard, one-celled, two-valved.

PRUNUS SPINOSA. *Black Thorn or Sloe.* A small tree found in hedges and thickets, with irregularly spreading branches, leaves rather long and narrow, serrated. Flowers very numerous, with white petals appearing before the leaves, flower stalks generally single. Fruit black with a blueish bloom, used to adulterate Port wine, and the leaves are mixed for the same purpose with tea. The branches are covered with long thorns, whence its name. This little tree soon attracts the eye in the spring, as its white blossoms look conspicuous in the nearly naked hedges. There are several other species of this genus, but they do not flower so early as the present.

ICOSANDRIA. POLYGYNIA.
CALYCIFLORÆ. ROSACEÆ.

FRAGARIA. (STRAWBERRY.)

Generic Character *Calyx* concave, divided into ten, the alternate parts smaller. *Petals* five. *Stamens* numerous. *Fruit* formed of numerous minute seeds, placed upon a large, juicy, dissolving receptacle.

POTENTILLA. (CINQUEFOIL.)

Generic Character. *Calyx* concave, divided into eight or ten parts, alternate divisions smaller than the rest. *Petals* four or five. *Stamens* numerous. *Fruit* of minute seeds, placed upon a flattish, dry receptacle.

Two plants make their appearance at this early season which are often confused with each other, but a little study will soon make them clear. One is found in bloom a little earlier than the other, but they are mentioned together as being nearly allied both in habit and appearance.

FRAGARIA VESCA. *Wood Strawberry*; and POTENTILLA FRAGARIASTRUM (Plate II. Fig. 5). *Strawberry-leaved Cinquefoil.* The latter is found the earliest in blossom, and is smaller in all its parts than the Strawberry; but they are found in the same situation, growing together on dry banks, and in woods. The *Potentilla* has its leaves divided into three leaflets, ovate and deeply serrated, silky on both sides, particularly the under. Flowers small and white, petals as long as the calyx. Stem procumbent. The *Fragaria*, or real Wood Strawberry, differs in having the leaves larger, the whole plant more vigorous, and not so clothed with leaves, but more simple. Root somewhat woody, sending out long runners which take root, and thus extend the plant. It flowers from April to July, its fruit is ripe in August, and is drooping, scarlet, somewhat acid, and fragrant. This is the origin of the cultivated Strawberry. The main difference between these two plants lies in the fruit. In the Strawberry it consists of many minute nuts placed upon a large fleshy receptacle, which is the part we pull away when eating them; but in the *Potentilla* the little nuts grow on a dry receptacle. As these pretty plants often grow on the same bank, there is great facility for examination, and, if made with attention, the generic differences will never be forgotten. The Wood Strawberry is found throughout Great Britain; the fruit is delicious with sugar, and considered very wholesome. In Sweden it grows plentifully, and Linnæus was extremely fond of it.

POLYANDRIA. POLYGYNIA.

THALAMIFLORÆ. RANUNCULACEÆ.

RANUNCULUS. (CROWFOOT.)

Generic Character. *Calyx* (which falls off) formed of three or five egg-shaped leaves. *Petals* five, roundish and shining. The *stamens* numerous and shorter than the petals. The *germens,* or lowest part of the pistils, numerous, and collected into a round head.

Two species of this genus I have almost invariably found during this early month. The first

Ranunculus Ficaria (Plate II. Fig. 6). *Pile-wort Crow-foot,* or *Lesser Celandine.* This plant makes the banks and shady places look gay with its handsome, shining, yellow petals; each flower has generally nine, an unusual number amongst plants. Calyx of three leaves. Leaves alternate, stalked, heart-shaped, angular and smooth, and spotted with whitish green; footstalks longer than the leaves. Linnæus says it is injurious to other plants growing near, and that farmers should endeavour to root it out from their lands; if they leave it in our lanes to look gay in the spring, we will not mind. It closes its flowers before rain and at night.

Ranunculus hederaceus. *Ivy Crowfoot.* Stem creeping, leaves roundish, kidney-shaped, with three or five lobes, dark green. Petals white, and very small, scarcely larger than the calyx. Found on wet banks, or in ditches, shallow pools, and where water has stood; very common. It is a small plant.

Didynamia. Gymnospermia.

Corallifloræ. Lamiaceæ.

LAMIUM. (Dead Nettle.)

Generic Character. *Calyx* of one leaf becoming wider at the mouth, and divided into five. *Corolla* gaping, tube very short. Upper lip vaulted and covering the stamens, lower lip inversely heart-shaped and notched. *Seeds* four at the bottom of the calyx.

The plants of this genus are found in flower almost all the year, those growing in sheltered situations appearing even in January. They are called "Dead Nettles" from their similarity to the true Nettle in appearance, but they have no stinging powers. Four species may be found easily amongst rubbish, by hedges, walls, and road-sides. Though they are so common that we pass them by without a thought, if examined with a magnifier they are found to be full of beauty, particularly the first two species.

Lamium album. *White dead Nettle,* or *White Archangel.* Leaves heart-shaped, pointed, deeply serrated, hairy. Flowers white, about twenty in a whorl, close to the leaves. Stem about a foot high, hairy. Flowers in the greatest perfection in May and June, but the plant may be found at all seasons; I therefore place it here, as this month is of course not so prolific in flowers as those of summer.

LAMIUM PURPUREUM (Plate II. Fig. 7). *Red dead Nettle.* Leaves heart-shaped, rather blunt, stalked, the upper ones much crowded and of a beautiful purple tinge, covered with silky hairs. Flowers purplish red (I have occasionally found them quite white), the buds of a very deep colour and hairy. This plant is very beautiful under a magnifying-glass.

LAMIUM INCISUM. *Cut-leaved dead Nettle.* This species much resembles the last, but the leaves are broadly heart-shaped, obtuse, stalked, irregularly cut. The upper ones crowded, less rugged and thinner.

LAMIUM AMPLEXICAULE. *Hen-bit dead Nettle.* Leaves broadly heart-shaped, obtuse, deeply scalloped, the upper embracing the stem, lower stalked. Corolla with the upper lip crimson and downy, the lower pale and spotted. Flower more slender than the rest of the genus.

DIDYNAMIA. GYMNOSPERMIA.

CORALLIFLORÆ. LAMIACEÆ.

GLECHOMA. (GROUND IVY.)

Generic Character. *Calyx* tubular, with many nerves, divided into five at the top. *Corolla* extending far beyond the calyx;

upper lip divided into two, lower three-lobed, middle lobe notched.

GLECHOMA HEDERACEA (Plate II. Fig. 8). *Ground Ivy.* This is the only species of the genus. It is found very commonly on old walls, hedges, and road-sides; and is a pretty bright-looking plant. Its leaves are kidney-shaped, scalloped, downy, or at least soft to the touch. Calyx formed of one leaf, with five pointed teeth. Corolla gaping, tube slender, upper lip erect, cut half way down, lower lip three-lobed, the middle lobe larger and cut. Flowers blueish purple, with the interior variegated. Seeds four, at the bottom of the calyx, which remains after the corolla is faded. Roots very creeping. The whole plant is aromatic, and has been used as a medicine, is good for coughs, and was in former days regularly sold in the streets of London.

TETRADYNAMIA. SILIQUOSA.
THALAMIFLORÆ. CRUCIFERÆ.

CARDAMINE. (BITTER CRESS.)

Generic Character. *Calyx* of four oblong, blunt, slightly spreading leaves. *Petals* inversely egg-shaped, undivided. *Pod* erect, narrow, compressed, valves flat, without ribs. *Seeds* egg-shaped, inserted alternately in a single row.

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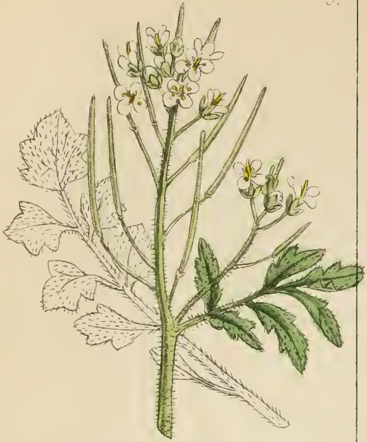
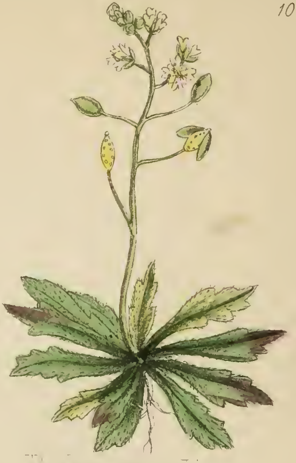


Cardamine hirsuta, Linn.

10.



Draba verna, Linn.

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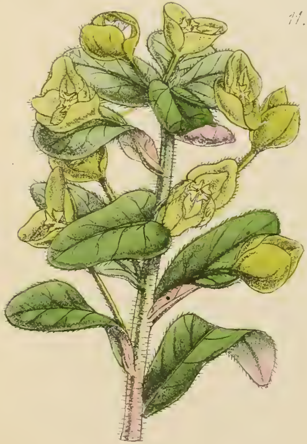

Euphorbia amygdaloides, Linn.

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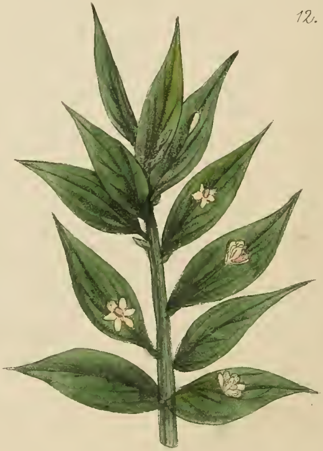

Ruscus aculeatus, Linn.

Reeve, lith. et imp.

One species only of the four belonging to this genus, is mentioned by botanists as flowering in March, but I have always observed two, and shall therefore mention them. They are not conspicuous plants, and the first may easily be overlooked by those not interested in the study.

CARDAMINE HIRSUTA. (Plate III. Fig. 9.) *Hairy Cardamine.* Leaves divided, leaflets of those near the root, stalked and roundish. Flowers small, white, and the long pod often seen mixed with the flowers, as some come out earlier than others on the same branch. The pods are something like those of the Garden Wall-flower. They are formed of three pieces, one in the centre, and two at the sides, which, when the seeds within are ripe, open at the bottom, and suddenly rolling themselves up, throw off the seeds to a considerable distance, thus dispersing them. From three inches to a foot high, varying in luxuriance according to soil and situation. More or less hairy. Growing in loose soil in shady places from March to July, and very common.

CARDAMINE PRATENSIS. *Cuckoo-flower.* This plant I have found occasionally in February and always in March, though the botanical books say May. Leaves pinnate or divided, leaflets of the root-leaves roundish, and toothed, those of the stem-leaves lance-shaped. Flowers large, in clusters, pale-purple, lilac, or white. Sometimes found double and of a pretty delicate colour. It grows in moist fields and lanes, and in watery places.

TETRADYNAMIA. SILICULOSA.

THALAMIFLORÆ. CRUCIFERÆ.

DRABA. (WHITLOW-GRASS.)

Generic Character. *Calyx* of four, somewhat spreading egg-shaped valves, equal at the base. *Petals* spreading. *Pouch* oblong, compressed, two-celled. *Seeds* several in each cell, small, roundish.

These little plants appear very early in loose dry soil, or on walls, and though insignificant should not be overlooked. Two species are now in bloom.

DRABA VERNA. (Plate III. Fig. 10.) *Common Whitlow-grass.* Stem leafless, leaves lance-shaped, toothed and hairy, arranged in a star-like form on the ground, and the whole scarcely exceeding in circumference that of a shilling. Flowers white, in a cluster. Calyx of four egg-shaped valves. Petals spreading. Pouch oblong, compressed nearly flat. Called Whitlow-grass, from its supposed powers of curing those troublesome gatherings on the hands.

DRABA AIZOIDES. *Yellow alpine Whitlow-grass.* This is not so common as the last species, but is found on walls and rocks in the South of Wales. Stems leafless, leaves lance-shaped, stiff, glossy, and fringed. Petals bright-yellow, slightly notched, twice as long as the calyx.

DIADELPHIA. DECANDRIA.

CALYCIFLORÆ. FABACEÆ.

ULEX. (FURZE.)

Generic Character. *Calyx* of two egg-shaped, concave, equal, coloured, permanent leaves; the upper with two small teeth, the lower with three. *Corolla* of five petals, standard, egg-shaped, cleft ascending wings oblong, obtuse; keel of two straight, obtuse petals adhering at their lower edges.* *Pod* oblong, little longer than the calyx.

Of this plant there are two species. One tall and flowering all the winter and summer, the other smaller in all its parts and running on the ground, its blossoms not appearing till autumn. The larger species,

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* The *standard* of a butterfly-shaped flower is the large upper petal. The *wings*, the two on the sides, and the *keel* the one which appears folded, and which covers the stamens and pistils.

ULEX EUROPÆUS, *Common Furze, Whin,* or *Gorse,* begins flowering very early in the year, and often before the commencement, for occasional bushes will appear in the autumn in full flower. Its bright yellow flowers are a great ornament to the heathy and often desolate looking places in which it grows. It prefers a sandy and gravelly soil and is rare in the Highlands. A very bushy shrub from two to five feet high, beset with thorns, leaves small and thorn-tipped, flowers solitary or in pairs, bright-yellow. Two egg-shaped spreading bracteas at the base of the calyx. When Linnæus came to England he was so delighted with this beautiful plant, that it is said he fell on his knees, and thanked God for producing so handsome a shrub. He tried to introduce it into Sweden on his return, but failed as the climate was too severe, though here it grows on our bleakest commons. It is occasionally seen in the green-houses in that country and Russia. It is a very useful plant, its young shoots being eaten by animals, and its podded seeds by numerous birds. To the poor, it is invaluable for winter firing.

Its pod when thoroughly ripe, suddenly bursts with some noise, and each valve rolls itself into a spiral form, and scatters the seed to a considerable distance, so that where this plant is once fixed it soon spreads. A variety found in Ireland is well known in our gardens, it does not flower so plentifully as the other, but its prickles are so soft and succulent, that cattle are extremely fond of it. The autumnal species,

Ulex nanus, *Dwarf Furze,* will be mentioned here, and shall be referred to at its proper season of flowering. It is half the size of the last in all its parts, and, apparently, only a variety. Bracteas minute and brown, close pressed, branches reclining. It grows on dry elevated heaths and pastures, and flowers in the autumn.

Syngenesia. Superflua.

Corollifloræ. Asteraceæ.

SENECIO. (Groundsel.)

Generic Character. *Involucre* cylindrical; the scales of which it is formed, narrow, equal, with several smaller ones at the base, their tips often brown. *Flowers* either flat or with rays. *Receptacle* naked.

Senecio vulgaris. *Common Groundsel.* This well-known plant, need not be described very fully, as this work is not intended to supersede more learned botanical works, but merely to point out those species easily met with by the young student. As every one knows this plant, I shall only mention that it is in flower from February to November, but is occasionally found through the winter, when a favourite bird may have its cage made gay by its green leaves. The specific distinctions are, leaves clasping the stem, divided and toothed, flowers in clustered heads, destitute of a ray. There are eight species, but the *Senecio vulgaris* is alone found early.

SYNGENESIA. SUPERFLUA.

CORALLIFLORÆ. ASTERACEÆ.

BELLIS. (DAISY.)

Generic Character. *Involucre* hemispherical, its scales all equal in length. *Receptacle* naked and conical. The *flowers* grow singly. *Leaves* short and rounded at the end.

BELLIS PERENNIS. *Common Daisy,* or *Day's eye,* as it was originally called. This universal favourite, (for it is known throughout Europe) may also be mentioned cursorily. It is so well known as to require little description, and may be found at all seasons, but from March to November it is in the greatest abundance, and ought not to be passed without mentioning its beauty. It is a compound flower, as are all those of the class *Syngenesia*. They are called compound, because, what we call one flower, in reality consists of many, for each of the little yellow knobs in the centre, and the white petals at the edge, is a distinct flower, having stamens and pistils, or at least one of these essential parts of fructification. This plant has only those in the centre perfect, the white petals at the edge having merely pistils attached to them. A beautiful contrivance for the preservation of these central florets is shown in this common plant. As it grows with its head so erect, that a drop of rain would fill it with wet, and injure the minute parts, the white ray has the power of closing over them on the approach of bad weather, and so forming a complete covering like a tent, and if the wind blows, the whole flower turns from it. By what extraordinary mechanism these wonderful effects are produced we cannot tell. It shows how worthy of study is everything formed by the hand of God. The name Bellis signifies *pretty*, and who is there that has not felt the beauty of this "modest crimson-tipped flower"? It is called in France, *Margarite*, the name of a woman expressive of beauty, from Margarita, a *Pearl*. I believe it is now seen in most of our colonial possessions, the seeds having been carried there and planted by accident, so that our emigrants are frequently delighted by finding unexpectedly their familiar friend, which, as Burns the poet says,

> "Lifts its unassuming head in humble guise."

SYNGENESIA. SUPERFLUA.

CORALLIFLORÆ. ASTERACEÆ.

TUSSILAGO. (COLTSFOOT.)

Generic Character. Common *calyx* or *involucre* simple, cylindrical and scaly. *Florets* of the centre, tubular, with five equal segments furnished with *stamens* and *pistils*, florets of the ray, narrow, strap-shaped. *Seed* oblong, compressed, downy, not stalked.

TUSSILAGO FARFARA. *Coltsfoot.* Found early, but principally in clayey soil, by rivers and ditches, so that it may not be met with in all neighbourhoods. Its leaves were formerly used as a remedy for coughs, whence its name, *Tussis*, being the Latin for cough. The down of the leaves dipped in saltpetre makes good tinder. "A remarkable fact about this plant is, that whenever earth has been turned up from canals, roads, &c., for the depth of five or six feet or more, below the surface, in most parts of England, Coltsfoot will be found growing soon after in abundance. In all probability, the seeds have remained dormant for ages, till brought by this process to the surface, when light, air, heat, and moisture promote their vegetation." The yellow flowers make their appearance before the leaves, and grow singly upon the stalk, which is about ten inches high and scaly. The florets of the ray are yellow, as well as the centre, narrow and strap-shaped. Leaves heart-shaped, angular, toothed, white and cottony beneath, smooth above.

There is another species, *T. petasites*, or, as it is called by some botanists, *Petasites vulgaris*. It flowers rather later, and is of somewhat similar habits, unfolding its blossoms before the leaves appear; they are of a pale flesh colour and small, leaves very large.

MONŒCIA. MONANDRIA.
MONOCHLAMYDEÆ. EUPHORBIACEÆ.

EUPHORBIA. (SPURGE.)

Generic Character. *Involucre* of one leaf, with four or five marginal lobes, permanent, containing several barren and one fertile flower, all destitute of *calyx* or *corolla*.

Euphorbia amygdaloides (Plate III. Fig. 11). *Wood Spurge*. This species alone flowers in this month. It is curiously constructed, two or three barren, and one fertile flower, are enclosed in a round cup-shaped involucre, like a basin holding several round substances, all of a delicate green. The leaves are oblong, narrow at the base. Stem red, almost shrubby, tall, growing in woods and thickets, especially in clayey soils, but not common. There are several other species more frequent, but they flower much later in the year.

Monœcia. Tetrandria.

Monochlamydeæ. Betulaceæ.

ALNUS. (Alder.)

Generic Character. Barren flowers numerous, in a loose cylindrical catkin, imbricated all round. *Calyx* a wedge-shaped scale covering three flowers. *Corolla* of three equal florets, each of one *petal*, deeply divided into four equal, egg-shaped, obtuse segments. Fertile flowers not so numerous, two under each scale; no *corolla*.

Alnus glutinosa. *Common Alder.* A well-known tree, in flower at this time. Its wood is used in many ways, and principally for piles of bridges, as it does not decay by exposure to water. Its bark is used in dying red, and, with copperas, black, also for fishermen's nets. It is a low tree, with rugged bark, and grows in wet meadows and moist grounds near water. The leaves are roundish, waved, and serrated, sticky, downy underneath about the veins. Flowers growing in long, hanging catkins, those containing the barren flowers longer than the others.

Monœcia. Polyandria.

Monochlamydeæ. Corylaceæ.

CORYLUS. (Hasel-nut.)

Generic Character. Barren flower. *Catkins* cylindrical, imbricated all round with scales, each enclosing a single flower. Fertile flower double, the outer, inferior part, of one leaf, deeply divided; finally enlarged, permanent, and forming the green covering of the nut. *Fruit*, a hard nut.

Corylus avellana. *Common Hasel-nut.* Another tree, equally well-known which now shows its curious catkins in almost every hedge row. The leaves are rather round, heart-shaped, light green, downy, and pointed. The generic description fully characterises the flower. It is a small bushy tree, with many light branches. The wood is valuable for fires, and makes good charcoal for drawing. The nuts are well known, and are eaten by squirrels, hogs, and other animals. We derive the name from our Saxon ancestors, who called the nuts *Hasel nutu.*

DIŒCIA. DIANDRIA.

MONOCHLAMYDEÆ. SALICACEÆ.

SALIX. (WILLOW.)

This very difficult and extensive genus can only be slightly mentioned in a work of this kind. There are upwards of seventy species, and all extremely difficult to describe and determine. The wood is very valuable for many purposes, it is made into hoops, baskets, and crates; the bark is used by the tanner, and that of the *Salix Russelliana,* instead of Peruvian bark, as a medicine. The species *rubra* and *viminalis,* are used most by basket makers, and *S. fragilis,* for fences. The species, called Palm in England, is the *Salix* *capræa,* and was the one used to deck churches and houses formerly, in the week succeeding Palm Sunday. Why this tree was selected is not known, as it is unlike the Oriental Palm, used on the occasion of our Saviour's entry into Jerusalem.

The *Salix Babylonica* is the elegant Weeping Willow. It is not indigenous in this country.

DIŒCIA. TRIANDRIA.

PETALOIDEÆ. LILIACEÆ.

RUSCUS. (BOX HOLLY.)

Generic Character, The barren flower has a *calyx* of six egg-shaped spreading leaves, three alternate smaller. *Corolla* none. *Nectary* central, egg-shaped, erect, coloured, as long as the calyx. Perfect flower, the same as the above, but containing the *pistil,* which protrudes through the nectary. *Berry* globular, three-celled.

RUSCUS ACULEATUS (Plate III. Fig. 12). *Box holly, or Butcher's broom.* Is common in woods in the south of England; especially in a gravelly soil. It is a handsome plant, and in winter has a bright scarlet berry, which makes it very ornamental. It retains its freshness longer than the common holly, when placed in the house at Christmas, and is still more beautiful. It has thick white roots, and sends up a plurality of stems, which are half shrubby. It is readily increased by suckers, and grows one or two feet high; has a rigid branched stem, with many ovate, sharp-pointed, dark green leaves, on the upper surface of which is situated the flower.* It is extremely minute and green. The situation of the flower and berry, in the centre of the leaf, renders this plant very peculiar, and shows the wonderful variety in nature.

DIŒCIA. OCTANDRIA.

MONOCHLAMYDEÆ. SALICACEÆ.

POPULUS. (POPLAR.)

Generic Character. Barren *catkin* oblong, loosely imbricated, cylindrical. *Calyx*, a wedge-shaped flat scale, jagged at the edges. *Corolla*, of one petal, dilated and cup-shaped. Fertile catkin, as above. *Stigmas*, four or eight, awl-shaped. *Seeds* numerous, small, egg-shaped, downy at the top.

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* In a foreign species the flowers grow at the edge of the leaf.

This tree is now in flower. Four species are found in this country, one of which is *Populus tremula,* or the Aspen, so well known by the fluttering motion of its leaves in the wind. The *P. alba,* White Poplar; *P. canescens,* Grey Poplar; and *P. nigra,* Black Poplar, are principally found in moist ground near rivers, and are all well known by their peculiar shape. The first has a rather smooth bark, and leaves white and cottony underneath. The wood is used for coarse work. The second has silvery smooth bark, producing better wood, and the third, a thick, blackish bark, affording a light valuable wood.

DIŒCIA. MONADELPHIA.
MONOCHLAMYDEÆ. PINACEÆ.

TAXUS. (YEW.)

Generic Character. Barren *flower*; *catkins* oval, scaly at the base. *Stamens* numerous. Fertile *flower* solitary, scaly at the base. *Berry,* fleshy, perforated at the extremity.

TAXUS BACCATA. *Common Yew.* This tree does not grow very tall, but it attains a considerable diameter. The wood is hard and beautifully veined, and much required by cabinet makers; it was formerly useful for making bows, when our ancestors used those weapons. They also poisoned their arrows with the juice. It grows wild in rocky places in Cumberland and Westmoreland, and very rarely in Scotland. It is often planted in church yards, most probably on account of its mournful appearance. In Ireland and Wales, twigs of Yew are often carried at funerals. The flowers are singularly formed, and the berry is scarlet; some botanists affirm that it is poisonous, but this notion is now discarded. Our ancestors cultivated it in their gardens, and clipped it in the most fantastic manner. I have, myself, seen one cut into the form of a hen hovering over her chickens. It was only the upper part of the tree which formed the figure, the lower part being clipped quite round, and forming an arbour. The movement caused by the wind gave the appearance of motion to the hen's feathers.

CHAPTER IV.

APRIL.

The fields and forests over which winter had brooded in silence, as regards vegetation, now begin to rejoice, freshen, and burst into life. Not only is the vegetable world beginning to look gay, but the air, the earth, and the water, are peopled with inhabitants, who have apparently shared in the general revival. This season, perhaps more decidedly than others, calls to mind the beauties of the works of God, when we might almost imagine that a new creation had taken place, and reminds us that our blessings are in the hand of one who is all-powerful.

A general cheerfulness prevails in all places, and banks and hedges begin to look gay with many blossoms. The changeable character of the weather, also, sometimes mild, then cold, now sunshine, and soon after bright showers, gives a beauty to the month of April which is very delightful. The process of vegetation is general and rapid in this month, and the botanist may add many treasures to his collection by exerting a little industry and observation. Several of our forest trees are now in flower, and deserve attention, the Oak, Chesnut, Beech, Ash and Birch are all showing their respective blossoms, and are so various in their peculiarities that the study is extremely interesting. Thirty or forty new plants may be added to those found last month, and the herbarium begins to be looked upon with pleasure; and to those who are new to the study, much has to be done in gathering, examining, naming, drying and arranging the various plants met with. I would advise all those who are in earnest in the science, to dry every plant in flower that is procured, even if the name cannot be discovered by reference to the book at the time, because some accidental circumstance, some resemblance to one hereafter discovered, may lead to the generic name and specific distinctions.

DIANDRIA. MONOGYNIA.

COROLLIFLORÆ. SCROPHULARIACEÆ.

VERONICA. (SPEEDWELL.)

Generic Character. See page 41.*

VERONICA MONTANA. *Mountain Speedwell.* This is a most delicate and beautiful species of this interesting genus, with its long clusters of pale lilac flowers, which are curiously striped with purple lines, and are well worthy of minute examination. The leaves are egg-shaped, serrated (that is, cut at the edges), and stalked, stem hairy all round, and very weak, lying on the ground. It is found in woody moist places, and is not very uncommon in hilly countries.

VERONICA CHAMÆDRYS. *Germander Speedwell.* Perhaps the most beautiful and striking of all the species. The clusters have many large flowers, of a bright blue, with darker streaks, and the under part pale blue. The leaves are egg-shaped, without stalks, deeply serrated. Stems lying on the ground at the lower part, marked with two lines of long hairs, which change sides between each pair of leaves. The lovely blue flowers of this plant appearing at so early a season make it a very welcome visitor, and one easily distinguished. At night, or under the influence of moisture, this brilliant flower closes. In April, May and June every grassy bank is adorned with it.

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* When the genus has been described before, the Generic Character will not be repeated, but referred to.

VERONICA AGRESTIS. *Green procumbent Speedwell,* and VERONICA POLITA, *Grey Speedwell,* resemble each other in most particulars; they are as follows: Leaves stalked, egg-shaped, deeply serrated. Flower stalks about equal in length to the leaves, curved when in fruit. Corolla shorter than the calyx. Root small. Seed-vessel of the *V. agrestis* with about six seeds, and the petals pale blue, on the upper part white; those of the *V. polita* dark blue and many-seeded, and the leaves gray, and usually less hairy.

VERONICA ARVENSIS. *Wall Speedwell.* Another species with pale blue flowers, but its leaves are heart-shaped, broadly serrated, lower ones stalked, upper leaves lance-shaped, and not stalked. Stems nearly erect. Corolla small, pale blue, with deeper lines, the flowers so arranged as to form almost a terminal spike. This is a very common species on the tops of walls, in dry fields, and amongst rubbish. Flowering late in the month if the season is mild.

VERONICA SERPYLLIFOLIA. *Smooth* or *Thyme-leaved Speedwell.* Clusters rather spiked, flowers of a delicate pale blue, reddish-colour before expanding fully, with deep blue lines. Leaves egg-shaped, scarcely serrated, opposite, with very short stalks, three nerves in each. Root formed of long white fibres, stem about five inches long, lying on the ground, branched and leafy. It is common on pastures and road sides.

Two rare species, *Veronica triphyllos* and *Veronica verna*, are found also in this month about Bury, in Norfolk, and in Suffolk; but they have not been discovered at present in other places.

DIANDRIA. MONOGYNIA.

COROLLIFLORÆ. OLEACEÆ.

FRAXINUS. (ASH.)

Generic Character. *Corolla* none. *Calyx* in four deep segments. *Anthers* large, with four furrows. *Style* short.

FRAXINUS EXCELSIOR. *Common Ash.* The leaves are divided, with lance-shaped, serrated leaflets of four or six pairs, with one at the end. Flowers in loose bunches. Dr. Hooker says that it has neither calyx nor corolla, and that the pistil and stamens arise at once from the flower-stalk. Seed-vessel with a flat, oblong seed.

This fine tree is not often found in a truly wild state in

England, but is met with in Scotland. It is one of the noblest of our trees, and the wood is very valuable for many purposes, especially for instruments of husbandry, the young copse-wood makes hurdles, and the older hop poles. In favourable situations it attains a large size, and its timber stands next in value to the Oak. Nothing, however, will grow under it, its numerous roots run near the surface, and exhaust the soil very much, so that neither corn nor grass prosper under its shade. It is, therefore, not suitable to hedgerows, and should stand alone. The flowers appear before the leaves, which are later than many trees, and fall sooner.

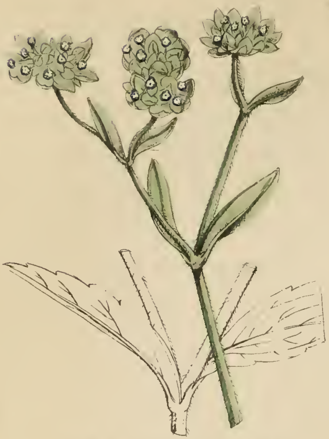
TRIANDRIA. MONOGYNIA.

COROLLIFLORÆ. VALERIANACEÆ.

FEDIA. (CORN SALAD.)

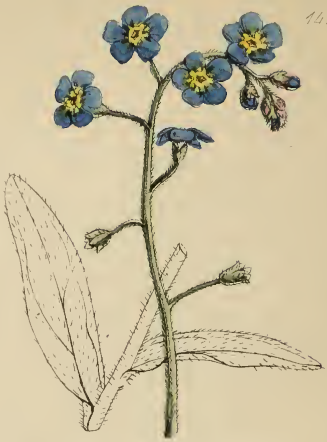
Generic Character. *Calyx* of three or four small teeth. *Corolla* of one tubular petal, with a protuberance at the base. *Stamens* fixed on the tube of the flower. *Seed-vessel* membranous, crowned by the permanent calyx.

Four species of this genus are now to be found, but two are uncommon, and not very likely to fall under the obser-



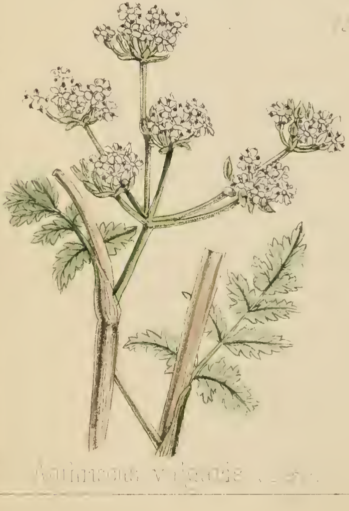
13.

Fedia dentata, Vahl.



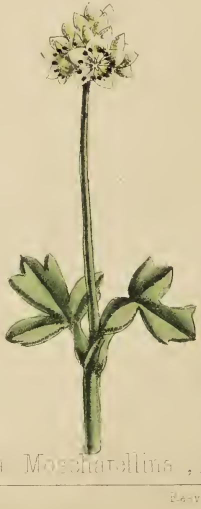
14.

Myosotis palustris With.



15.

Anthriscus vulgaris, Pers.



16.

Adoxa Moschatellina, Linn.

Reeve [illegible] imp.

vation of the young botanist. The following may more easily be added to the collection.

FEDIA OLITORIA. (Plate IV. Fig. 13.) *Corn-salad,* or *Lamb's Lettuce.* Flowers in heads, pale blue or lilac, and very small, with narrow bracteas. Seed-vessel nearly globular, crowned with the three teeth of the calyx, one being larger than the others. Stem about six inches high, much divided into forked branches, furrowed. Lower leaves tongue-shaped, stalked, stem-leaves having no stalks, obtuse, sometimes a little toothed. It is a small, insignificant plant, growing in corn fields and amongst rubbish. Rather common. It was formerly much eaten as a salad, dressed in the same manner as our salads at the present day.

FEDIA DENTATA. *Smooth-fruited Corn salad.* This species resembles the last in general appearance, but differs in many minute respects. Seed-vessel egg-shaped, and crowned with the four-toothed calyx. Flowers flesh-coloured in loose bunches, and one solitary in each fork of the stem. Leaves narrower than the last, those on the upper part of the stem more toothed. It is about ten inches high, growing in corn-fields, and on hedge-banks, and is less common than the *F. olitoria.*

Pentandria. Monogynia.
Corolliforæ. Boraginaceæ.

MYOSOTIS. (Scorpion-grass, or Forget-me-not.)

Generic Character. *Calyx* five-cleft. *Corolla* of one petal, lying flat at the top, mouth half closed, with five small valves.

This well-known genus is a great favourite, and deservedly so, as its pretty bright blue flowers and soft leaves make it attractive; it is considered the emblem of friendship in almost every part of Europe, more particularly the species *palustris*. Several species are found in Britain, and only one considered rare, and that is found on the mountains of Scotland, the *Myosotis alpestris*. The following species may all be found in April, though the *palustris* is perhaps more abundant in May.

Myosotis arvensis. *Common field Scorpion-grass.* This flowers throughout the summer, grows in cultivated grounds, &c., and in loose soil, commonly. Calyx cut half way down with spreading hooked bristles. Fruit small. Corolla concave, the flat part as long as the tube, and of a delicate blue.

Myosotis palustris. (Plate IV. Fig. 14.) *Great water Scorpion-grass* or *Forget-me-not.* The handsomest of this pretty genus and easily recognized by its beautiful blue blossom, which is very attractive. The following story accounts for its name. A lady and gentleman, walking on the banks of the Rhine, perceived some of its bright blue flowers; the lady wishing to possess it, her companion politely attempted to gather it for her, but, in so doing, slipped into the river and was drowned, exclaiming as he sank, "Forget me not!" I cannot vouch for the truth of this romantic incident, but by some means this flower has been considered the emblem of Friendship in almost every country. It is a common plant in ditches and banks of rivers. The flower is larger than the other species; it has a yellow eye and a small white ray at the base of each petal. It is generally about a foot high.

MYOSOTIS COLLINA. *Early field Scorpion-grass.* This is a very small species, both as regards leaves and flowers, the latter being quite minute. It grows in dry pastures, and on banks and walls, and seems to die down to the root by Midsummer. Its small size, and having one flower remote from the rest, distinguishes it very well. The flat part of the corolla is shorter than the tube. This little plant, when in flower, gives quite a blue colour to the dry banks where it grows.

MYOSOTIS VERSICOLOR, *Yellow-and-blue Scorpion-grass,* is a very pretty species, growing with the last, and distinguished from it by the blossoms being yellow, principally, and having no remote flower. Leaves narrow, oblong, and hairy. Stem three or four inches high.

Two other species are mentioned by botanists, but they differ so slightly from *palustris* and *arvensis*, that I do not think them worth mentioning here. The young collector may be satisfied with the four described.

Triandria. Monogynia.
Corollifloræ. Primulaceæ.

CYCLAMEN. (Cyclamen.)

Generic Character. *Calyx* bell-shaped, divided into five at the top. *Corolla* divided into five segments, which are turned back, and stand upright, as the flower is pendulous.

It is very likely that most of my readers are acquainted with the garden *Cyclamen,* with its spotted leaves and handsome powers. Those who are will easily recognize the wild species.

Cyclamen hederæfolium. *Ivy-leaved Cyclamen.* It is, unfortunately, rare, and indeed not supposed to be truly wild. It is found in thickets and woods. Its leaves are variegated with pale and dark green, and the pretty pendulous flowers are white or flesh-coloured. Its form is so remarkable that it would easily be recognized if found.

PENTANDRIA. MONOGYNIA
THALAMIFLORÆ. VIOLACEÆ.

VIOLA. (VIOLET.)

Generic Character. See page 48.

VIOLA HIRTA. *Hairy Violet.* Leaves heart-shaped, stalks of flowers rough with hairs as well as the leaves, those of the calyx obtuse, root not creeping. Flowers pale, rather dingy, blue and scentless. This species is found in woods and pastures in England, principally in chalk and limestone soil. It flowers during this month and the next.

VIOLA PALUSTRIS. *Marsh Violet.* Leaves heart or kidney-shaped, quite smooth, spur very short. Flowers very pale blue. Bogs and marshy places, as its name denotes, are the situations in which this species is found. Not common in the south, but abundant in the mountains of Scotland.

VIOLA CANINA. *Dog's Violet.* Leaves heart-shaped and acute, those of the calyx very much so. Flowers scentless, blue, purple, and sometimes white. From April to August this plant is found in flower, on banks, in woods and dry pastures, and the clefts of rocks upon high mountains.

VIOLA TRICOLOR. *Pansy Violet*, or *Heart's-ease.* Leaves oblong, and deeply scalloped. The flowers very variable, both in size and colour. This plant shows remarkably what may be done by cultivation, for the wild specimens compared to their cultivated relations of the garden, look very puny and starved. This pretty, modest and unpretending flower, has had many names, and has long been a favourite with the poet and the florist. Its earliest name seems to have been Pansy, but it is also called Variegated Violet, Forget-me-not, Butterfly-flower, Three-faces-under-a-hood, Heart's-ease, &c. It is used medicinally on the Continent

PENTANDRIA. DIGYNIA.

COROLLIFLORÆ. GENTIANACEÆ.

GENTIANA. (GENTIAN.)

Generic Character. *Calyx* of one leaf, divided into five, sometimes four, acute, permanent parts. *Corolla* of one petal, tubular in its lower part; upper, divided into four or five equal segments.

GENTIANA VERNA. *Spring Gentian.* Leaves linear. Stems simple, short, each bearing a single blue flower. A rare plant; but sometimes found in this month, in mountainous and the young botanist may be considered fortunate who discovers it. This is the only spring species, the other four come into flower in August and September.

PENTANDRIA. DIGYNIA.
CALYCIFLORÆ. APIACEÆ.

ANTHRISCUS. (BEAKED PARSLEY.)

Generic Character. No *calyx*. *Petals* rather heart-shaped, with a sharp point. *Seed-vessel* contracted at the side, beaked. No universal *involucre* (or small leaves at the base of the flower-stalks). Partial one (or those under the upper flower-stalks) of many leaves.

This genus belongs to the umbelliferous order of plants, and is one of the earliest that makes its appearance. An umbel is a head of flowers, with the flower-stalks of nearly equal length arising from a common centre.

ANTHRISCUS VULGARIS. (Plate IV. Fig. 15.) *Common beaked Parsley*. The flower has no calyx. Petals white, equal, uniform, inversely heart-shaped. Filaments hair-like, as long as the corolla, anthers roundish. Fruit egg-shaped, beaked, seeds without ribs, covered with short incurved bristles. Leaves divided into three, with the leaflets deeply cut. Stem two or three feet high, erect, smooth and glossy, swelling under the joints. Umbels opposite the leaves. It is found in abundance in waste ground, on dry banks and road-sides. In some places it is so plentiful that it covers the ground under the trees, as the common fern does in other parts.

HEXANDRIA. MONOGYNIA.

PETALOIDEÆ. LILIACEÆ.

HYACINTHUS. (HYACINTH.)

Generic Character. *Calyx* none. *Corolla* of one petal, with a somewhat bell-shaped tube, divided at the top into six parts, each rolled back. *Seed-vessel* roundish, three-cornered, and having three cells.

HYACINTHUS NONSCRIPTUS. *Wild Hyacinth.* This well-known plant makes the hedges, thickets, and woods look gay towards the end of the month, and where it is found, is generally very abundant. The clusters of blue drooping flowers are very pretty, the leaves are numerous and pale green. Stalk about a foot high. Some of the old writers call this the Hare-Bell, but that term is now confined to the *Campanula rotundifolia.*

The genus is supposed to derive its name from the youth Hyacinthus, who was killed by Apollo, and changed into this plant, the leaves having dark marks showing the initials of his name. The only British species being without marks, is called *non scriptus,* or not written.

HEXANDRIA. MONOGYNIA.

PETALOIDEÆ. HYDROCHARACEÆ.

LUZULA. (WOOD-RUSH.)

Generic Character. See page 52.

Two species may now be added to this genus, one being found last month.

LUZULA PILOSA. *Broad-leaved hairy Wood-Rush.* The stalks of the head of flowers all proceed from the same point in the main stalk, with the flowers solitary. Stem about a foot high, leaves between linear and lance-shaped, ribbed, fringed with long white hairs. It grows in woods and thickets, is pretty, and an elegant, light looking plant.

LUZULA SYLVATICA. *Great hairy Wood-Rush.* Flowers growing like the last, but doubly compound, and large. Leaves hairy and striated, those of the root forming a large tuft. Whole plant much larger than the last, growing two or three feet high. It is commonly found in woody, hilly places, and upon mountains, but not flowering so early, indeed, not much till May.

LUZULA FORSTERI. *Narrow-leaved hairy Wood-Rush.* Flowers like the *L. pilosa* nearly, the difference lies in the whole plant having a more slender form and the leaves being much narrower. It is found also in the same situations.

OCTANDRIA. TETRAGYNIA.

CALYCIFLORÆ. ARALIACEÆ.

ADOXA. (MOSCHATELL.)

Generic Character. *Calyx* divided into two or three spreading segments. *Corolla* of one petal wheel-shaped, divided into four or five egg-shaped, acute segments longer than the calyx. *Berry* globular, half invested with the permanent calyx.

ADOXA MOSCHATELLINA. (Plate IV. Fig. 16.) *Tuberous Moschatell.* This curious and inconspicuous little plant requires the searching eyes of a botanist to discover. It is very delicate, and, being all green, is easily overlooked. The flowers have a musky smell in the evening, or early in the morning when the dew is on them. It grows in moist shady places, frequently at the foot of trees, and often on mountain tops. The leaves spring from the root on very long footstalks, and are divided into three or more parts. Flowers pale green on the top of the stalk, four making a square, and one at the top, so as to form a compact head. The upper one has eight stamens, the rest ten.

DECANDRIA. DIGYNIA.

CALYCIFLORÆ. SAXIFRAGACEÆ.

SAXIFRAGA. (SAXIFRAGE).

Generic Character. *Calyx* inferior, though sometimes nearly superior, of one leaf, divided into five parts. *Petals* five, attached to the calyx, narrow at the base. *Seed-vessel* nearly egg-shaped, with two cells. *Seeds* minute and numerous.

The Saxifrages form an exceedingly pretty genus of plants, and may easily be recognised by their general resemblance to our garden species, commonly called "London Pride." Many of them are very rare, and are only found in mountainous districts in Scotland and Wales; only one flowers at this early season.

SAXIFRAGA TRIDACTYLITES. *Rue-leaved Saxifrage.* This pretty plant flowers in April and May, and grows almost universally on walls, roofs of cottages, or dry bare ground. It is not above three or four inches high. The leaves are shaped like a wedge, and divided into three or five parts, the upper not divided. The stem is much branched, each stalk having a single flower, which is small and white. The leaves and whole plant turn red after the flowering is over.

DECANDRIA. TRIGYNIA.

THALAMIFLORÆ. CARYOPHYLLACEÆ.

STELLARIA. (STITCHWORT.)

Generic Character. *Calyx* inferior, of five broad lance-shaped, acute, spreading leaves. *Petals* five, deeply cut, spreading, oblong, withering. *Stamens* shorter than the corolla, the five alternate ones shorter still. *Styles* hair-like, spreading.

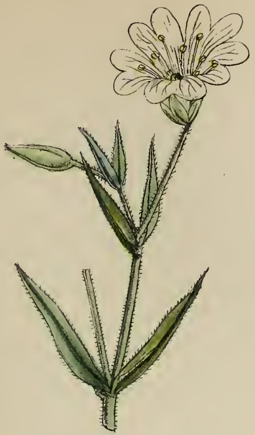
This pretty genus has eight species, all having white star-like flowers, mostly of a very small size. Two species are usually found in April, if the season is early.

STELLARIA MEDIA. *Common Chickweed* or *Stitchwort*. This common plant, of which poultry and small birds are so fond, flowers during the whole year, growing everywhere, in waste and cultivated ground. It has egg-shaped leaves. Stems procumbent, with a hairy line between each pair of leaves, first on one side and then on the other, so that even this common weed is worth minute examination. The flowers are very small, with white petals. The stamens vary from three to ten.

STELLARIA HOLOSTEA. (Plate V. Fig. 17.) *Great Stitchwort.* This is perhaps the handsomest species, and its large, white, star-like flowers make it very attractive. It is common

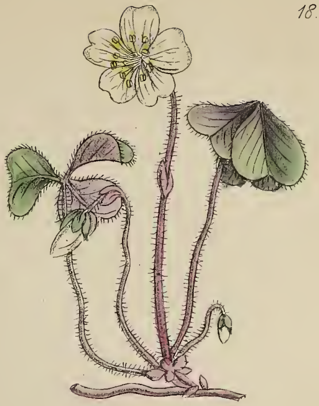
Plate 5.

17.



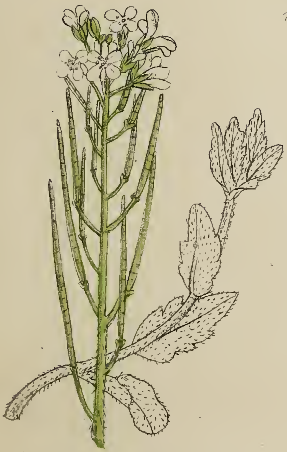
Stellaria Holostea, *Linn.*

18.



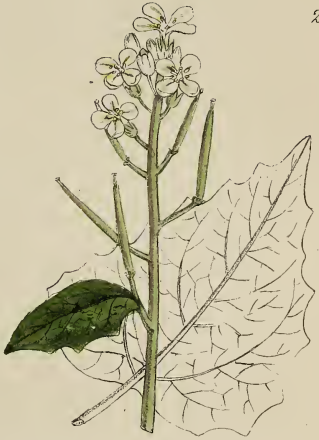
Oxalis Acetosella, *Linn.*

19.



Arabis hirsuta, *R.Br.*

20.



Erysimum Alliaria, *Linn.*

Reeve, lith. et imp.

in woods and hedges. The stems are from one to two feet high, very slender, and lying down at the base, square, and bearing many flowers at the top. Leaves lance-shaped and serrated. Flowers large and pure white, petals heart-shaped. Calyx much shorter than the petals.

DECANDRIA. PENTAGYNIA.

THALAMIFLORÆ. OXALIDACEÆ.

OXALIS. (WOOD-SORREL.)

Generic Character. *Calyx* deeply divided into five, acute, permanent leaves. *Petals* five, much longer than the calyx. *Filaments* like hairs, the five outer ones shorter than the rest. *Styles* five, thread-shaped.

There are two species of this beautiful genus, the most common is

OXALIS ACETOSELLA. (Plate V. Fig. 18.) *Common Wood-Sorrel.* This is found in woods and shady places, deep rocky lanes, &c., and often clothes the rocks with the most delicate green. Its very remarkable leaves once seen will not be forgotten; they all arise from the root, and are divided into three perfect, heart-shaped leaflets, which close one upon the other, and are extremely beautiful, of a bright green, and beneath rather purple. They fold up on the approach of night and before rain, and it may, therefore, be ranked as a sensitive plant, though not equalling those of foreign countries. The flowers are very delicate, and fade almost as soon as gathered. The petals are white, streaked with purple, and are handsome and large for the size of the plant. In Lapland it is plentiful, and makes its appearance very early. Formerly it was used as a sauce, and in small quantities it is not unwholesome. The leaves have an agreeable acid, and I believe oxalic acid is produced from them. Salts of lemons, for removing stains in linen, are the crystalized juices of this little plant. The seed-vessel has the power of projecting its seeds, when ripe, to a considerable distance. It is angular, and splits down one side, and then pressing on the seeds sends them to a distance of several feet.

OXALIS CORNICULATA. *Yellow procumbent Wood-Sorrel.* Is found in shady waste ground, in the south of England, but rare. The stem is branched and lying on the ground. The flowers are in small umbels, and the petals yellow, so that it is easily distinguished from the first mentioned, though not so readily found.

DECANDRIA. PENTAGYNIA.

THALAMIFLORÆ. CARYOPHYLLACEÆ.

CERASTIUM. (MOUSE-EAR CHICKWEED.)

Generic Character. See page 53.

Three other species of this genus are now to be found, and they are of a more interesting character than the small species found last month.

CERASTIUM VULGATUM. *Broad-leaved Mouse-ear Chickweed.* Leaves egg-shaped, hairy, petals white and as long as the calyx. Flowers longer than their stalks. Stems numerous, from four to six inches long, hairy, and both leaves and stems of a pale green. This is a very common plant, flowering all the summer months, and growing in fields and waste places.

CERASTIUM VISCOSUM. *Narrow-leaved Mouse-ear Chickweed.* Leaves between oblong and lance-shaped, hairy, flowers shorter than their stalks. Stems as long as the last, which, with the leaves, are hairy, dark green and clammy. It flowers all through the summer, and, like the *C. vulgatum,* is found commonly in fields and waste places.

CERASTIUM ARVENSE. *Field Mouse-ear Chickweed.* Leaves narrow, lance-shaped, fringed at the base, petals twice the length of the calyx. Stems numerous, covered with fine hairs; not many flowers in the bunch, petals large and white. It grows in fields and dry gravelly pastures.

ICOSANDRIA. MONOGYNIA.

CALYCIFLORÆ. ROSACEÆ.

PRUNUS. (CHERRY.)

Generic Character. See page 54.

We had the Black-Thorn, or *Prunus spinosa,* in flower last month, being the first of the genus that makes its appearance, now we find the Wild Cherry, the Bullace tree, &c.

PRUNUS CERASUS. *Wild Cherry or Gean Tree.* This pretty tree makes the woods look gay with its white blossoms and delicate-looking leaves. The flowers are grouped together in an umbel, and are white. Leaves downy underneath, pointed, and rather broad. The fruit is dark in general, but there are varieties of a lighter tinge. It has a very smooth bark, and grows in woods and hedges; it is the origin of the garden Cherry.

PRUNUS INSITITIA. *Wild Bullace Tree.* Flower stalks in pairs and short, petals white. Leaves between egg-shaped and lance-shaped, downy beneath, alternate and serrated, branches ending in a thorn. Fruit round, black, with blue bloom. It is a small tree, with spreading round branches, growing in woods, thickets, and hedges.

PRUNUS DOMESTICA. *Wild Plumb Tree.* This species so greatly resembles the last, that they are sometimes considered as one. It differs in having no spines to the branches, and the flower stalks are solitary, not in pairs. It is rather later in flowering.

PRUNUS PADUS. *Bird Cherry.* This scarcely blossoms till June, and its flowers grow very differently to the rest, in a long drooping spike which is very pretty. Petals white. It is a small tree, with acute, doubly serrated leaves. Fruit small and black. It is frequent in woods, especially in the north.

ICOSANDRIA. PENTAGYNIA.

CALYCIFLORÆ. ROSACEÆ.

PYRUS. (PEAR.)

Generic Character. *Calyx* superior, of one leaf divided into five segments, *petals* five, roundish, much larger than the calyx, and arising from the edge. *Filaments* awl-shaped, shorter than the corolla, *anthers* oblong, two-lobed. The *fruit* is roundish, or oblong, fleshy, cells two or five, two seeds in each.

The wild Pear tree, though not common, is found in woods and hedges. The genus *Pyrus* contains the Apple, Pear, Service tree, &c.

PYRUS COMMUNIS. *Wild Pear-Tree.* Leaves simple, egg-shaped, serrate, smooth, downy when young. Flower stalks in an erect cluster, downy and terminal. Flowers numerous, snow-white. It grows in woods and hedges, and is not common. It is the origin of the garden Pear.

PYRUS MALUS. *Wild Apple-Tree* or *Crab-Tree.* Leaves simple, serrate; flowers in a sessile umbel, white, tinged with rose-colour. This species does not flower till May, and is the origin of all the varieties of the Apple. The fruit is globular, yellowish, tinged with red, acid and sharp.

It grows in woods and hedges and is more rare than the Pear.

PYRUS TORMINALIS. *Wild Service-Tree.* Leaves simple, somewhat heart-shaped, serrate and seven-lobed. Flower-stalks branched and in a cluster. Flowers white, in large terminal, downy panicles. Fruit brown and acid. This tree is found frequently in woods and hedges in the south of England. Three other species will be mentioned in May.

POLYANDRIA. POLYGYNIA.
THALAMIFLORÆ. RANUNCULACEÆ.

ANEMONE. (ANEMONE.)

Generic Character. *Calyx* none. *Petals* from five to fifteen, oblong, inferior, regular, in one or more rows. *Stamens* much shorter than the corolla. *Pistils* numerous, collected into a roundish head.

These pretty spring flowers are to be met with in woods and open pastures, in most counties. In Essex they are unknown. The first species mentioned is found in almost all neighbourhoods, and makes the woods gay with its light blossoms.

ANEMONE NEMOROSA. *Wood Anemone.* Leaves divided into three or five parts. Stalks with a single flower with white petals, tinged with purple on the outside. Petals six, spreading. The flower has an involucre of three leaves, either divided into three or five. It is considered poisonous to cattle.

ANEMONE PULSATELLA. *Pasque-Flower.* This is easily distinguished from the last, its flowers have six purple petals, very silky on the outside. The flower-stalks are about four or five inches high, with an involucre of many deep narrow segments, all united at the base. The leaves doubly divided. This beautiful flower grows on elevated pastures.

There are two other species of *Anemone,* but as they are very rare, I will not confuse young beginners by describing them. One has a blue flower, the *A. appenina*; the other yellow, the *A. ranunculoides.*

POLYANDRIA. POLYGYNIA.

THALAMIFLORÆ. RANUNCULACEÆ.

CALTHA. (MARSH MARYGOLD.)

Generic Character. Flowers formed of five coloured parts.

Corolla none. *Seed-vessels* several, flattened and spreading, with many seeds.

CALTHA PALUSTRIS. *Common marsh Marygold.* This is a handsome plant, found abundantly in marshy places, and greatly enlivening streams and ponds by its bright and large yellow flowers, and handsome leaves, which are heart-shaped and shining. It is not considered good for cattle, and they generally refuse it. In northern countries it is very abundant, and its expanding flowers give notice that the winter snows are disappearing.

TETRADYNAMIA. SILICULOSA.

THALAMIFLORÆ. CRUCIFERÆ.

THLASPI. (SHEPHERD'S PURSE.)

Generic Character. *Calyx* of four egg-shaped spreading leaves. *Petals* egg-shaped, equal, undivided. *Anthers* heart-shaped, acute. *Pouch* compressed, roundish, or inversely heart-shaped, two-celled, valves keeled, generally bordered.

THLASPI (Capsella) BURSA-PASTORIS. *Common Shepherd's Purse.* This common plant is well-known, and needs little description. The leaves at the root are divided and hairy, stem leaves lanceolate, all generally rough and toothed. Pouch inversely heart-shaped, and somewhat resembling an old-fashioned purse, whence its name. Stem branched. Flowers small and white. It may be found from March to November, in cultivated ground and road sides.

THLASPI PERFOLIATUM. *Perfoliate Shepherd's Purse.* This species is rare, and, indeed, only seems to be found in Oxfordshire and Gloucestershire. The stem-leaves are heart-shaped, smooth, somewhat toothed and not stalked; root-leaves stalked and egg-shaped. Flowers very small, white, and in a dense bunch. A smaller plant than the last.

TETRADYNAMIA. SILIQUOSA.
THALAMIFLORÆ. CRUCIFERÆ.

ARABIS. (WALL-CRESS.)

Generic Character. *Calyx* of four oblong, erect leaves, which fall off, two opposite ones somewhat larger. *Petals* oblong, undivided, spreading, hardly as long as the calyx. *Anthers* heart-shaped. *Pod* narrow, compressed, valves nearly flat, ribbed or veined, slightly undulated by the seeds.

Arabis Thaliana. *Common Wall-Cress.* Stem about a foot high, branched. Leaves hairy and toothed, root-leaves stalked, oblong, the rest having no stalks. Flowers small, white, and in a bunch. This little plant is common in the spring, on walls and loose sandy soil.

Arabis stricta. *Bristol Rock Cress.* This is a rare species, found in rocky places about Bristol. It has cream-coloured flowers, not many in a bunch. Leaves toothed, obtuse, and bristly, those of the root somewhat lyrate. Stem hairy, round, and leafy. Found on limestone soil at Bristol.

Arabis hirsuta. (Plate V. Fig. 19.) *Hairy Wall-Cress.* Leaves all bristly, toothed, those of the stem embracing. Stem erect, about a foot high, stiff, leafy, and covered with spreading hairs. Pods straight, erect, with slightly keeled valves. Flowers small and white; they do not make their appearance till quite late in the month, but when vegetation is not in profusion, we value every plant however insignificant in appearance. It is found on dry walls, rocks, and gravelly banks. There are three other species, but all rare.

TETRADYNAMIA. SILIQUOSA.

THALAMIFLORÆ. CRUCIFERÆ.

ERYSIMUM. (TREACLE MUSTARD.)

Generic Character. *Pod* four-sided, in consequence of its projecting ribs. *Seeds* rather cylindrical. *Calyx* equal at the base, not close, and falling off.

There are only three species of this genus, none very striking, but one so common at this period that it must not be omitted, the others flower later.

ERYSIMUM ALLIARIA. (Plate V. Fig. 20.) *Garlic treacle Mustard.* Besides this English name it has others which are rather droll; *Jack by the hedge* is one, but how such a name could have arisen is difficult to imagine. *Sauce alone* may be derived from its possessing a smell of garlic. It is an early plant, and having very handsome leaves makes the hedges look bright where it abounds. They are broadly heart-shaped, stalked, and of a bright green. Stem from one to two feet high, flowers numerous, white and small. When bruised it emits a smell like garlic; it is bitter, and acrid, and is said to have been used as a salad. It grows by hedges, walls, and amongst rubbish, and is very common.

Tetradynamia. Siliquosa.
Thalamifloræ. Cruciferæ.

CHEIRANTHUS. (Wall-flower.)

Our garden plant of this genus familiarizes us with the wild specimen (*Cheiranthus cheiri*), and the young botanist may find it flowering in this month, and the following, particularly on walls and old buildings, which it ornaments with its fine golden-coloured petals. It seems to require little nourishment, for it springs from crevices where alone appear mortar and rubbish. The stem is bushy, and often from one to two feet high. Flowers large, with rich golden petals, not so dark as many of the garden varieties, but still very handsome.

Monadelphia. Decandria.
Thalamifloræ. Geraneaceæ.

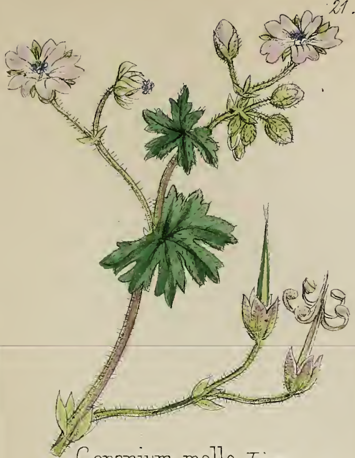
GERANIUM. (Crane's bill.)

Generic Character. *Calyx* of five egg-shaped leaves. *Petals* five, rounded or inversely heart-shaped. *Nectaries* five, glands alternate, with the petals. *Seed-vessel* divided into five, each tipped with a narrow, erect awn, which is smooth on the inside and finally recurved.

This pretty genus of our wild flowers first shows itself in this month, but not more than one species is commonly observed. The seed-vessel is a beautiful object for the microscope, and, indeed, to the naked eye it is interesting, but the curious lengthened awns are only shown when the flower is quite over. One species makes its appearance early.

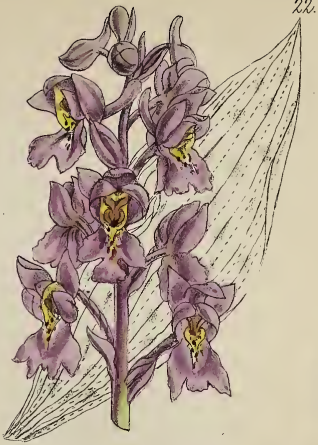
GERANIUM MOLLE. (Plate VI. Fig. 21.) *Dove's foot Crane's bill.* The whole of this plant is very soft and downy, whence its Latin name. The leaves are nearly round, and divided into many lobes. Calyx-leaves with five nerves. Petals about one half longer than the calyx, cut about a third down, the claw tufted at the base with hairs on each side, and of a rose colour. Two flowers spring from opposite the leaves. It is found all the summer growing in waste places, fields, and almost everywhere. Its soft, round, divided leaves make it easily distinguished from others of the genus, and besides, it is the first to make its appearance.

GERANIUM ROBERTIANUM. *Herb Robert.* This scarcely flowers till May, but may be found occasionally if the season is mild. It grows in waste ground, on walls, &c., and soon catches the eye by its bright red stalks, and



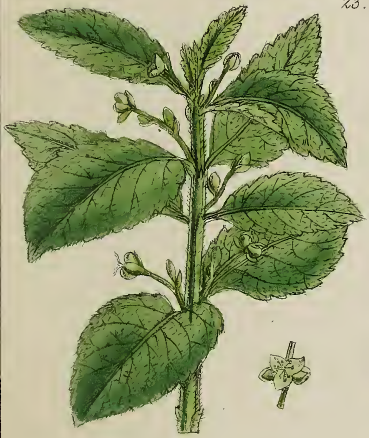
21.

Geranium molle, *Linn.*



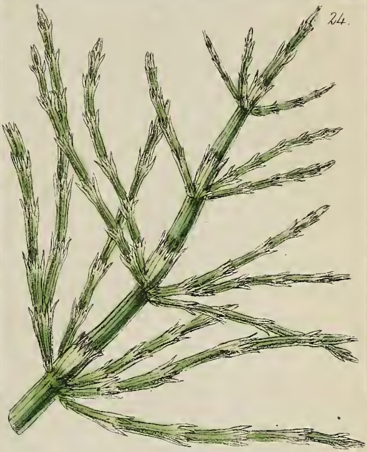
22.

Orchis mascula, *Linn.*



23.

Mercurialis perennis, *Linn.*



24.

Equisetum arvense, *Linn.*

Reeve lith. et imp.

leaves tinged with the same colour, particularly when growing on walls and rocks. They are much divided, that is, into three or five parts, and those again subdivided. They are soft and silky. Flowers very pretty, petals bright rose colour, with three whitish veins. Calyx dark brownish-green, and hairy. It frequently flowers late in the Autumn, even in November.

GYNANDRIA. MONANDRIA.

PETALOIDEÆ. ORCHIDACEÆ.

ORCHIS. (ORCHIS.)

Generic Character. *Roots* often tuberous, *stems* herbaceous, *leaves* striated, and clasping the stem at the base. The *flower* is divided into six parts, of which three may be called the *calyx* and three the *petals*, though they are often of the same colour. The middle of the three inner divisions is mostly longer than the rest, and lobed, and is called the lip. At the back is a spur, which differs in length, being in some species very long, in others short.

This beautiful tribe of plants now begins to make its appearance, in the person of the *Orchis mascula*, or early Purple Orchis.

Orchis mascula. (Plate VI. Fig. 22.) *Early Purple Orchis.* This is a handsome species, and in many places very common; it usually inhabits woods and pastures. The stem is about a foot high, the spike of flowers at the top, of a dark purple hue, the centre of the lip lighter and spotted. The lip three-lobed, spur obtuse, rather longer than the tube of the flower, two side calyx leaves turned upwards. Leaves generally marked with dark purple spots. If the young botanist finds this flower he will not fail to know others, from the characteristics resembling those of this early species. Next month four or five may be found.

Monœcia. Tetrandria.

Monochlamydæ. Euphorbiaceæ.

BUXUS. (Box.)

Generic Character. *Calyx* divided into three or four parts. Barren flower. *Scale* two-lobed. *Stamens* four. Fertile, *scales* three, very small. *Pistils* three; the *stigmas* obtuse. *Fruit* with three horns, three cells, and six seeds.

Buxus sempervirens. *Box tree.* The leaves are egg-shaped, convex and shining; flowers pale yellow. The calyx of those that are barren have three roundish leaves, those of the fertile four. The former having two petals, and the latter three. The barren contains the stamens, and the fertile the pistils, and, of course, the seeds, which are two in number.

This tree is found on dry chalky hills in the south of England; if not repeatedly cut down it grows into a small tree, but it is of such value for turning, carving and engraving that it seldom attains any great size. On Box hill, near Dorking in Surrey, where there are many of these trees, they are cut down once in seven years. The wood is valuable to our wood engravers, from its being extremely hard and close-grained. It is a dwarf variety that is used for garden borders.

MONŒCIA. POLYANDRIA.

PETALOIDEÆ. ARACEÆ.

ARUM. (CUCKOW PINT.)

Generic Character. *Spadix* naked at the apex or top, enclosed in a *spatha*. *Flowers* naked, those with *stamens*, crowded about the middle of the *pistils*, and those with pistils seated at the base. *Berry* one-celled, many-seeded.

Arum maculatum. *Cuckoo pint.* This is one of our most curious plants, and may be seen in almost every hedge and wood. Its large, handsome leaves soon attract attention, and its extraordinary flower is quite worthy of examination. The leaves all proceed from the base, and are large, shining, and often spotted with black. The flowers rise from the centre, and are formed of a light green envelope, called a spatha. This envelopes the parts of fructification, which consist of a ring of germens, and one of anthers, and above them another ring of apparently imperfect pistils. Above these rises a smooth substance, called the spadix, which is generally of a pale purple hue. When the spatha withers, the red berries are displayed, these often continue during the winter, and may occasionally be seen, when all the other parts of the plant are dead. The root is large, and in the south of England it is sold, after being properly prepared, and is said to be a good substitute for bread flour.

In Portland Island it is much eaten as bread, and in London sold under the name of Portland Sago. It is also used medicinally when fresh, and is very acrid. Formerly it was made into starch.

MONŒCIA. POLYANDRIA.

MONOCHLAMYDEÆ. CORYLACEÆ.

QUERCUS. (OAK.)

Generic Character. Barren flowers in a long pendulous catkin. *Calyx* divided into five or seven parts. *Stamens* from five to ten. Fertile flower. *Seed-vessel* round, three-celled, seated in a cup. *Nut* one-celled and one-seeded.

There are two species of this well-known and valuable tree indigenous to this country, the first-mentioned is found quite in a wild state in the Highlands of Scotland, and both appear in natural woods in uncultivated parts of the country. Of all forest trees this is perhaps the most interesting, as well for its usefulness as for its beauty. There cannot be a nobler object than an Oak in full leaf, and even in old age it is extremely interesting. Many are known to have been in existence a thousand years, and amongst others I may mention the Green-dale Oak, in Welbeck Park, Nottinghamshire. Opinions differ as to which species is best for timber, but, at any rate, both are valuable. Besides timber, the bark is most valuable for tanning leather and for cordage. Of foreign species, the *Quercus suber* yields the material for corks, and the *Quercus coccifera* the galls for dyeing.

QUERCUS ROBUR. *Common Oak.* Leaves oblong, dilated towards the end, obtusely lobed. Stalks of the acorns long. This fruit was formerly eaten by our ancestors, but now only supplies food for hogs, squirrels, &c.

QUERCUS SESSILIFLORA. *Sessile-fruited Oak.* Leaves oblong, with opposite acute lobes, and elongated stalks; no stalk to the acorn, which easily distinguishes it from the former. The wood has been said to be superior, but this is perhaps an error.

MONŒCIA. POLYANDRIA.

MONOCHLAMYDEÆ. CORYLACEÆ.

FAGUS. (BEECH.)

Generic Character. Barren flower in a globose catkin. *Stamens* ten to fifteen. Fertile flowers in pairs. *Calyx* six-lobed. *Seed-vessel* three-angled and three lobed, and enclosed in a spiny, four-lobed involucre. *Nut* one-celled, and one or two-seeded.

The Beech grows in woods, on a chalky soil, especially in the south of England, though scarcely wild in Scotland. The wood is employed for many purposes, by carpenters, turners, and wheel-wrights.

Fagus sylvatica, *Common Beech,* is a large tree, with smooth bark and spreading branches. The nuts are enclosed in a prickly calyx, and are eaten by various animals; hogs are fattened upon them. The leaves are egg-shaped, slightly cut or serrated at the edge. Some botanists class the Spanish Chestnut,* *Fagus castanea,* with the Beech, and mention woods in the south of England as the localities where it is found apparently wild. It is a large, noble tree, with spreading branches; the wood used for the same purposes as Oak. Evelyn, the old writer, says, "it hath formerly built a good part of our ancient houses in the city of London," and that he had "one large barn near the city entirely framed of it." The church of St. Nicholas at Great Yarmouth, erected in the reign of William Rufus, is roofed with Chestnut. Dr. Hooker says, "It affords excellent stakes for palisades, and props for vines and hops. It is good for mill timber and for water-works, but if water touch the root of the growing tree, it spoils both the fruit and wood. The nuts are used as an article of daily food in the south of Europe, and in France I have had them served up for breakfast, boiled in milk."

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* *Esculus hippocastanum.* The Horse-Chestnut is a very different tree, and not a native of England, but its great beauty, especially when covered with its handsome blossom in May, causes it to be frequently planted. It is originally from Asia, and three centuries ago was not known in Europe. It was first planted at Constantinople, and then made its progress through Italy and France to England.

MONŒCIA. POLYANDRIA.

MONOCHLAMYDEÆ. BETULACEÆ.

BETULA. (BIRCH.)

Generic Character. Barren catkin: *Scales* three, middle one with the *stamens*. No calyx. Fertile catkin: *Scales* three-lobed, three-flowered, falling off. *Styles* two. *Fruit* winged, with one fertile cell.

The Birch, another of our native trees, puts forth its long catkins in this month. There are two species,

BETULA ALBA, *Common Birch*, is a tall tree, the stem being covered with a white skin, which easily peels off in transverse rings; the branches very slender and drooping. It is an elegant ornamental tree, found in abundance in

Scotland, and elsewhere if the soil is heathy. The whole tree diffuses an agreeable odour, and the wood is useful in many ways; much is burnt into charcoal, and brooms are made of it.

BETULA NANA, *Dwarf Birch*, is a shrub rarely exceeding two feet in height, and only grows on the sides of some of the high Scotch mountains. The poor Laplanders turn this small shrub to account; it is used for firing, and the young twigs, covered with rein-deer's skin, serve for beds.

Many species of Willow are now in flower, but, for the reasons given last month, larger works must be consulted if the young botanist wishes to study this extensive genus.

DIŒCIA. ENNEANDRIA.

MONOCHLAMYDEÆ. EUPHORBIACEÆ.

MERCURIALIS. (MERCURY.)

Generic Character. *Calyx* of both barren and fertile flowers deeply divided into egg-shaped spreading segments. No *corolla*. *Stamens* in the barren flower nine or ten, nearly as long as the *calyx.* *Pistil* in the fertile flower, has the germen roundish, compressed. *Styles* two, *stigmas* acute. *Seed-vessel* formed of two globular lobes.

Two species form this genus, one found as early as April, the other not till June. The spring species is,

MERCURIALIS PERENNIS. (Plate VI. Fig. 23). *Perennial Mercury.* This has a simple stem about a foot high, square and clothed at the upper part, with egg-shaped serrated rough leaves. Flowers green, and in loose spikes situated amongst the leaves. It is said to be poisonous, and is found in bushy shady places, on banks, also by walls and hedges, and is much more common than the other. The plant in drying turns black or blueish.

CRYPTOGAMIA. EQUISETACEA.

FOLIACEÆ. EQUISETACEÆ.

EQUISETUM. (HORSE-TAIL.)

Generic Character. Stems stiff, jointed; branches, if any, mostly whorled. Flower, or parts of fructification, at the end of the stalk, in spikes or catkins.

This singular genus of plants may easily be overlooked, by those not interested in the study, but a botanist knows that by examination, beauties may be found in the most insignificant weed, or such as we term so, though every thing has its use in the creation. The *Equisetum* is very curious indeed. The spike containing the parts of fructification appears before the leaf of the plant, and is oblong, with many stalked scales arranged on a common stem. These *scales* are angular, bearing at the back from four to seven oblong membranous cells parallel to each other, finally bursting into two equal valves. *Seeds* globular, very minute, having four spiral filaments attached to their base which terminate each in a flat appendage or *anther,* producing pollen. Three species make their appearance at this time and should be sought for with care.

EQUISETUM ARVENSE. (Plate VI. Fig. 24.) *Corn Horse-tail.* The fertile stems about eight inches high, appear before the sterile, which are from one to two feet high. The former are erect, destitute of branches, their sheaths distant and deeply toothed. The sterile have undivided, roughish, ascending branches, though rather drooping at the base. Found in fields and meadows, common.

EQUISETUM FLUVIATILE. *Great water Horse-tail.* Sterile stems with very numerous, undivided, angular, roughish branches. Fertile stems unbranched, their sheaths crowded, deeply toothed. Fertile stem from one to two feet, and sterile from two to four feet high. Grows at the edges of rivers and lakes.

EQUISETUM SYLVATICUM. *Wood Horse-tail.* Sterile and fertile stems with compound whorled branches, smooth and curved downwards. Stem about a foot high, erect, with short branches, each whorl with a pale brown, torn sheath above it. Spike oblong. This is a graceful species, less stiff and more herbaceous than the rest.

CHAPTER V.

MAY.

This is perhaps the loveliest month of the year, and very abundant in treasures for the botanist, the young student will, indeed, find them multiply so rapidly that a feeling of confusion and doubt, as to the possibility of overcoming so many simultaneous difficulties, may arise for a time; but the best plan to be pursued, is that of selecting some of the most striking of the specimens, and by determining those, a few certain points will be ascertained, and the next year the study will be found much more simple. Above all, the lover of nature must not be discouraged, for if, for example, the *Veronica hederifolia* which was found in March, be well impressed on the mind, the rest of the species will, when gathered, be easily recognized as belonging to the same genus, and thus the generic names of a small number of plants will be at once known, and the specific distinctions may be learned afterwards. The same will be the case with the genus *Myosotis*, so that with a common share of patience and observation, the study presents only those difficulties which an ardent mind loves to conquer.

This season is not only rich in flowers, but the birds enliven our walks by their sweet songs, insects are gay, all nature appears rejoicing in the return of warm weather, and we who are blessed with reason must be grateful to the God of Nature, who made us capable of appreciating these various beauties. In this month every thing wears an appearance of freshness which is exceedingly pleasant to the eye, and exhilirating to the spirits after the sombre hues of winter, for the earth, refreshed by frequent showers, and not yet scorched by the summer sun, yields abundant vegetation, while every field, lane, and wood, is enamelled by the many-coloured flowers of spring.

Our poets, from Chaucer to Wordsworth, have spoken of the beauties of this season, its flowers, its birds, and especially the Nightingale awaken their fervour; and all agree in ascribing many beauties and pleasures to this month. Milton makes it "eternal spring", in Heaven, and Virgil says, the world was created "when spring's mild influence made all nature gay". Yet all this profuse loveliness lasts but a short time, and the botanist must make the best use of its fleeting days in treasuring the beautiful plants strewed around in such delightful profusion. Many that are highly interesting may be added to the collection, and most of them not difficult to determine either as regards genus or species.

DIANDRIA. MONOGYNIA.

COROLLIFLORÆ. SCROPHULARIACEÆ.

VERONICA. (SPEEDWELL.)

Generic Character. See page 41.

The flowers of this genus grow in three different ways; some have a long spike of flowers proceeding from the top of the plant, as *Veronica serpyllifolia* (see p. 80) others have the spikes proceeding from the sides as the *V. montana*; and *V. chamædrys* (see p. 79) the last division, has the flowers solitary, not growing in spikes.

VERONICA OFFICINALIS. *Common Speedwell.* The species now found belongs to the middle division, and the flowers are of a delicate lilac hue. The leaves are broad, serrated and rough. Stem very downy and lying on the ground, the flowering part alone, rising up. The leaves are astringent, and are often used medicinally, and for making tea. The French call it *Thé de l'Europe,* and it was once affirmed by an old writer that it was the identical tea of China. It is abundant in woods and dry situations, especially heaths and commons.

TRIANDRIA. DIGYNIA.

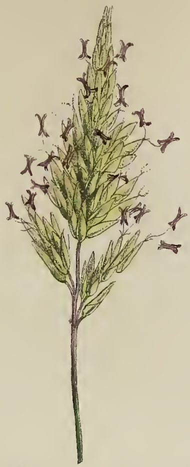
GLUMACEÆ. GRAMINACEÆ.

ANTHOXANTHUM. (VERNAL-GRASS.)

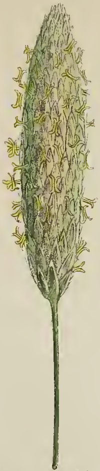
Generic Character. *Calyx* of two valves, one-flowered. *Corolla* double, of two valves.

The Grasses are so numerous, and difficult to distinguish from each other, that I shall only mention a few of the most striking. The young botanist had better procure illustrations of this family of plants, when particularly desirous of knowing them individually.

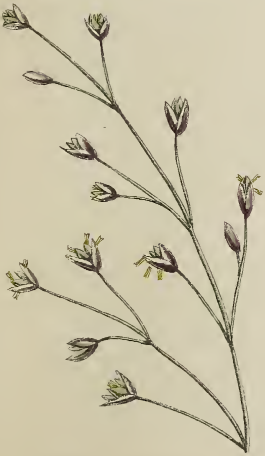
ANTHOXANTHUM ODORATUM. (Plate VII. Fig. 25.) *Sweet*



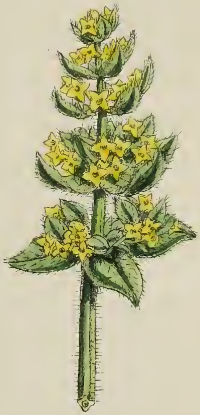
Anthoxanthum odoratum. Linn.



Alopecurus pratensis. Linn.



Melica uniflora, Retz.



Galium cruciatum. Smith.

scented Vernal-Grass. This plant only possesses two stamens, and consequently by some botanists, is placed in the 2nd Linnæan class, but as there are other Grasses which are alike defective, *Bromus diandrus* for instance, and they have both equally the appearance of Grasses, I shall arrange this sweet scented plant with those it so nearly resembles in other particulars. In the Natural System it is of course placed with other Grasses. It is very abundant in woods, and pastures, and yields an agreeable smell in the act of drying, so that it gives the well-known scent to new-made hay. It is about a foot high, leaves short. The panicle or bunch of flowers, is an oblong spike, and when old is yellow.

TRIANDRIA. DIGYNIA.

GLUMACEÆ. GRAMINACEÆ.

ALOPECURUS. (FOX-TAIL GRASS.)

Generic Character. *Calyx* two-leaved, valves nearly equal. *Corolla* of one valve, with an awn rising from the base.

ALOPECURUS PRATENSIS. (Plate VII. Fig. 26.) *Meadow Fox-tail Grass.* This is a common Grass in meadows and pastures, and is valuable food for cattle. It has a long erect panicle or culm of flowers, as it is called, of a greenish yellow colour, with silvery hairs. It is from one to two feet high, and blossoms twice in the year. One of the earliest and best of the Grasses found in rich pastures.

MELICA. (MELIC-GRASS.)

Generic Character. *Panicle* with few flowers. *Calyx* two-valved, two-flowered. *Corolla* of two valves; no awns.

MELICA UNIFLORA. (Plate VII. Fig. 27.) *Wood Melic-Grass.* This pretty Grass is found in many shady woods very abundantly, and is very ornamental, with its fine stalks and single flowers, which are slightly drooping and of a peculiar purplish brown colour. Leaves rather broad.

MELICA NUTANS. *Mountain Melic-Grass.* This species grows in the north of England, in mountainous countries. The leaves are narrower than the last. The spikes are nearly simple, spikelets with two flowers. About two feet high.

TETRANDRIA. MONOGYNIA.

COROLLIFLORÆ. GALIACEÆ.

GALIUM. (BED-STRAW.)

Generic Character. *Corolla* flat, of one petal, divided into four. *Fruit* a dry, round seed-vessel, in some species so rough that it adheres to whatever touches it, in others smooth.

This genus is said to derive its curious name of Bed-straw, from the circumstance of floors formerly being strewn with flowers and sweet-smelling herbs, before the introduction of carpets, and this was used among the rest.

GALIUM CRUCIATUM. (Plate VII. Fig. 28.) *Cross-leaved Bed-straw.* This species is the first of the genus to make its appearance, and is at the same time one of the prettiest. Its flowers are yellow, and as, with the exception of one more, all have white blossoms, it will easily be distinguished. They have all a peculiar characteristic, that of having the leaves small and in whorls; that is, in a ring round the stalk and at regular distances. This has four in a whorl, and the minute yellow flowers clustered upon them. The stalks are long and straggling, the plant abounds in hedges and on banks, resting against the bushes and its stronger neighbours. It is very common, and is sure to strike the eye of the attentive student. If well examined, the characteristics of the genus will not be forgotten.

TETRANDRIA. MONOGYNIA.
COROLLIFLORÆ. GALIACEÆ.

ASPERULA. (WOODRUFF.)

Generic Character. *Corolla* of one funnel-shaped petal.

The two plants of this genus do not differ very greatly from those of the *Galium*, but they are smaller and not so long and straggling.

ASPERULA ODORATA. *Sweet Woodruff.* This plant has a very sweet smell when drying, and long retains it, which well distinguishes it from the Bed-straws. It is exceedingly pretty when fresh, and, though not above six inches high, is rendered conspicuous by its bunch of pretty white flowers, which are small, but beautifully formed. The leaves are narrow, and about eight in a whorl. It is found in woods and shady places. Withering, the botanist, says that it makes a tea that excels all Chinese tea. In Germany, the whole plant is used to give flavour to wines, and is said to protect clothes from insects.

TETRANDRIA. TETRAGYNIA.
CORALLIFLORÆ. PLUMBAGINACEÆ.

ILEX. (HOLLY.)

Generic Character. *Calyx* divided into four or five. *Corolla* the same. *Berry* round, having four nuts.

ILEX AQUIFOLIUM. *Common Holly.* This well-known tree needs no description. It is frequent in woods and hedges, particularly in a light and gravelly soil, where it sometimes forms natural thickets. The wood is hard and white, much used by turners, especially for the beautiful Tunbridge ware; also for drawing upon, as the surface is very fine. Dr. Chandler says, that the adorning our houses and churches with this evergreen at Christmas, is probably, a relic of Druidism. It was from this called *Holy-tree,* of which Holly is a corruption. It was also called Scarlet Oak.

TETRANDRIA. TETRAGYNIA.
THALAMIFLORÆ. CARYOPHYLLACEÆ.

SAGINA. (PEARLWORT.)

Generic Character. *Calyx* of four leaves. *Petals* four, shorter than the calyx. *Seed-vessel* four-valved.

SAGINA PROCUMBENS. *Procumbent Pearl-wort.* These small plants are difficult to describe, but as they are found, at least two of the species, in waste places, gravel walks, and walls commonly, they shall be mentioned. The species *procumbens* is frequent, in dry situations, from May to August. It is small, with straggling branches lying close to the ground, and frequently taking root near the little whorl of leaves, which are very narrow, rather long, and pointed. Flower single, drooping, and on a long stalk, very small, with the calyx much larger than the petals.

SAGINA APETALA. *Annual small-flowered Pearlwort.* This species is still smaller in every part, and is found on gravel walks and walls. The stems are slightly hairy, erect, not procumbent like the last. The leaves are more narrow and pointed, and slightly hairy at the edge. Petals so small that sometimes they seem absent altogether. Seed-vessel rather large when ripening.

SAGINA MARITIMA. *Sea Pearlwort.* This species seems confined to the sea shore. The stems are only procumbent at the base, leaves thick. No petals; the calyx longer than the seed-vessel. It is tinged with red, especially about the stem and calyx.

TETRANDRIA. TETRAGYNIA.

THALAMIFLORÆ. CARYOPHYLLACEÆ.

MENCHIA. (MENCHIA.)

MENCHIA ERECTA. *Upright Menchia.* This small weed resembles greatly the Saginas in form and flower, but it has petals as long as the calyx. The stem is from two to four inches high, erect, occasionally a little reclining at the base. The leaves are long, pointed, and smooth. Calyx leaves large, pointed, white, and having a thin membrane at the edge. Petals white, narrow, and as long as the calyx.

TETRANDRIA. TETRAGYNIA.

THALAMIFLORÆ. TILLÆACEÆ.

TILLÆA. (TILLÆA.)

Generic Character. *Calyx* divided into three or four parts. *Petals* three or four.

TILLÆA MUSCOSA. *Mossy Tillæa.* This very minute plant is frequent on gravel walks, dreary sands, and moist barren heaths, in various parts of the country. It is even troublesome on garden walks near London. It has small, reddish, opposite, oblong, blunt leaves. Minute flowers, with no stalks; petals white or tipped with rose-colour. It is scarcely more than an inch high altogether, and is very likely to escape observation, though perhaps a gardener may find it troublesome. The use of this diminutive specimen of vegetation is, probably, to bind together, by degrees, loose barren sands, whole tracts of these seemingly profitless places being covered with it, so as to have quite a red tinge. It is principally found in Norfolk and Suffolk.

Pentandria. Monogynia.

Corolliforæ. Boraginaceæ.

SYMPHYTUM. (Comfrey.)

Generic Character. *Calyx* divided into five. *Corolla* swollen upwards, the throat closed with scales.

Symphytum officinale. *Common Comfrey.* A very handsome plant, frequent by the banks of rivers and watery places. It grows two or three feet high, with long, oval, rough leaves, narrow at the base, and running down the stem on each side, this is called *decurrent*. Those of the root are not so narrow, and have a more decided stalk. The flowers grow in a drooping spike, and the corolla is whitish, and often purple. There is another species, but it is rare in England, *Symphytum tuberosum*. It differs from the last principally in the leaves, the upper ones are only a little decurrent, larger and broader, and the stem simple, the former being branched.

PENTANDRIA. MONOGYNIA

COROLLIFLORÆ. PLUMBAGINACEÆ.

VINCA. (PERIWINKLE.)

Generic Character. *Calyx* divided into five. *Corolla* salver-shaped (that is, flat), the segments cut obliquely. The *petals*, in the bud, twisted spirally.

VINCA MAJOR and MINOR. *Greater* and *lesser Periwinkle*. This well-known garden plant is scarcely reckoned wild. The *major* is found in woods and thickets, but has been originally thrown from gardens. The *minor* is said to be decidedly wild in hedges and banks in Devonshire, with blue and white flowers.

PENTANDRIA. DIGYNIA.

CALYCIFLORÆ. APIACEÆ.

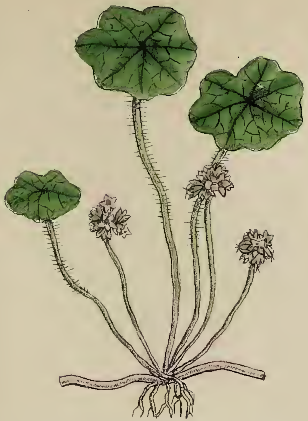
HYDROCOTYLE. (WHITE-ROT.)

Generic Character, No *calyx*. *Petals* ovate, entire, and pointed. *Fruit* flattened. *Leaves* round and flat, the stalk proceeding from the centre.

HYDROCOTYLE VULGARIS. (Plate VIII. Fig. 29) *White-rot* or *Marsh Pennywort*. Bogs, marshy places, and banks of ponds produce this curious, round-leaved plant. It will be at once known by the peculiar shaped leaf, which resembles that of the *Nasturtium*, and from its being confined to watery places. The stems creep very much beneath the ground or moss on which it grows, and are rather difficult to raise, as they take root at short intervals, and thence produce the flowers and leaves. The former are seldom seen without being dug up, and are rather insignificant in appearance.

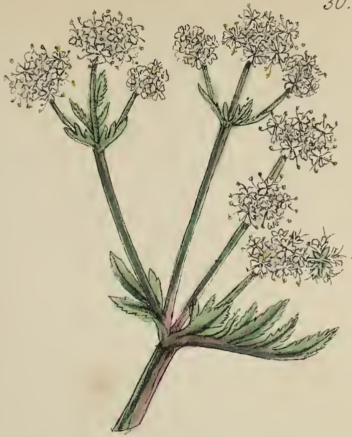
Plate 8.

29.



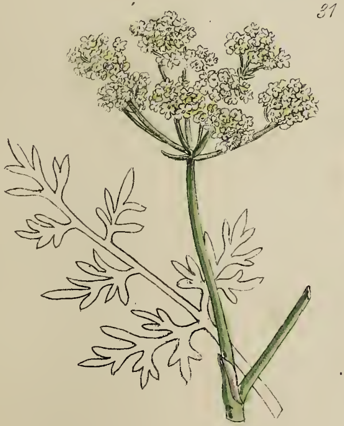
Hydrocotyle vulgaris, *Linn.*

30.



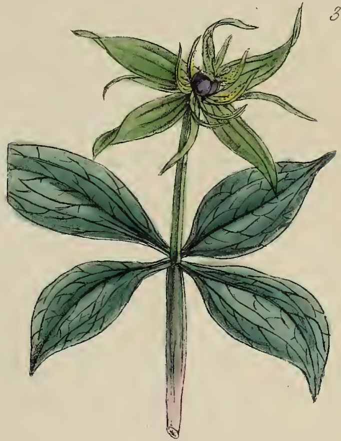
Sanicula europæa, *Linn.*

31



Bunium flexuosum, *With.*

32.



Paris quadrifolia, *Linn.*

Reeve lith. et imp.

PENTANDRIA. DIGYNIA.

CALYCIFLORÆ. APIACEÆ.

SANICULA. (SANICLE.)

Generic Character. *Calyx* of five leaves. *Petals* erect, with long inflected points. *Fruit* covered with hooked bristles. *Flowers* in little clusters.

SANICULA EUROPÆA. (Plate VIII. Fig. 30.) *Wood Sanicle.* This very pretty plant grows in woods and thickets, and its leaves and flowers are very ornamental. Leaves palmate, that is, divided like fingers, and the lobes cut into three. Heads of flowers small, white, and extremely pretty, sometimes a little tinged with red. Gerarde, the old botanist, says it was used much as a drink for curing inward hurts. It is bitter and aromatic, but is not now used in medicine.

PENTANDRIA. DIGYNIA.

CALYCIFLORÆ. APIACEÆ.

HELOSCLADIUM. (MARSHWORT.)

Generic Character. *Calyx* with five teeth. *Petals* oval and obtuse. The *fruit* curious, having five slightly prominent ridges.

The umbelliferous tribe, of which this is an example, are some of them very puzzling. An umbel is a head of flowers on stalks springing from a point, like the spokes of an umbrella. The blossom is small, having five distinct petals, frequently the two outer much larger than the rest. Two pistils, each having a stigma, which remain after the petals have fallen off, and form part of the seed-vessel. Most of them have white flowers, a few yellow, as Fennel Parsnip, &c., and a few red.

HELOSCLADIUM INUNDATUM. *Least Marshwort.* This little plant may be found at this time in lakes and ponds. It is from four to six inches long, creeping. Lower leaves very much divided, upper more simple. Umbel generally of two rays only. Flowers very small, but the fruit large in proportion to the rest of the plant, and beautifully striped. There are two other species rather larger, but they are not at present in flower.

PENTANDRIA. DIGYNIA.
CALYCIFLORÆ. APIACEÆ.

BUNIUM. (EARTH-NUT.)

Generic Character. No *calyx*. *Petals* heart-shaped. *Fruit* flattened at the side and oblong. Umbelliferous.

Bunium flexuosum. (Plate VIII. Fig. 31.) *Common Earth-nut.* This is a very delicate umbelliferous plant, both in flower and leaf. It is found in woods and pastures, has a slender, erect stem, with few leaves, very much divided, the segments being narrow and slender. Flower very minute and white, leaving oblong, ribbed fruit. It has a tuberous root of which pigs are fond, and for which they search in the woods.

PENTANDRIA. POLYGYNIA.

THALAMIFLORÆ. RANUNCULACEÆ.

MYOSURUS. (MOUSE-TAIL.)

Generic Character. *Calyx* of five leaves, prolonged at the base. *Petals* five, the lower part tubular.

Myosurus minimus. *Common Mouse-tail.* This is a curious little plant not very easily discovered, for it does not exceed five or six inches in height. It is found in corn-fields and waste places, in a gravelly or chalky soil. It has erect, narrow leaves, which are fleshy. The flower-stem, rising from the root and called a scape, bears a single small greenish flower. The receptacle, with its numerous germens, is at first short, but afterwards lengthened out to from one to three inches, and resembles a mouse's tail.

HEXANDRIA. MONOGYNIA.
PETALOIDEÆ. LILIACEÆ.

CONVALLARIA. (LILY.)

Generic Character. *Flowers* either divided into six parts, or globular. *Berry* having three cells, and one or two seeds in each.

These pretty plants derive their name from *convallis,* a valley, their usual locality. Two species may now be met with, though they are not very common.

CONVALLARIA MAJALIS. *Lily of the valley.* The delicate flower, and the two broad over-shadowing leaves of the Lily of the valley are well known, and the plant is an universal favourite. It is found particularly in a light soil, in woods and coppices. The wood is said to yield a dye.

CONVALLARIA MULTIFLORA. *Common Solomon's-seal,* is often found in the same situations as its rival in beauty the *majalis.* Its curious white flowers, with green edges, are extremely elegant. The leaves do not enclose the blossom as in the former species, but stand above the drooping flowers, as if to shade them from the sun. There is, perhaps, more elegance, but less modest beauty in this species. Its leaves are oval, large, upright, marked with nerves from the point to the base, and half embracing the stem. The flowers hang below in one, or many-flowered clusters. Stem single, and making a graceful bend. It is very abundant in the woods on the South Downs. There are two other species somewhat similar to the last, but they are very rare.

HEXANDRIA. TRIGYNIA.

MONOCHLAMYDEÆ. POLYGONACEÆ.

RUMEX, (DOCK.)

Generic Character. *Calyx* of three leaves joined at the base. *Corolla* three petals.

One species of this genus makes its appearance early, the rest scarcely before July and August. They are very common plants, but not attractive in form; with one species, known as the Sorrel, most young people are acquainted.

Rumex Acetosella. *Sheep's Sorrel.* This is a small species, and being much tinged with red in dry situations, or towards the end of summer, is easily distinguished. It is frequent in dry pastures, and very variable in height (from two to ten inches). The leaves also vary in form, but are generally halbert-shaped, that is, like an axe.

OCTANDRIA. MONOGYNIA,
THALAMIFLORÆ. ACERACEÆ.

ACER. (MAPLE.)

This tree, though now common in England, is scarcely considered indigenous. There are two species, the Great Maple, *Acer pseudo-platanus,* and *Acer campestre,* Common Maple. The former is found in hedges and plantations, the latter in woods and thickets. The first is a large handsome tree, casting an impenetrable shade; its bark is rough and often peels off in large flakes, which makes it picturesque. The leaves are five-lobed. Flowers green; the seed has two curious wings, which assist in spreading it when ripe. This tree often attains a large size, as much as sixty feet in height, and twelve or thirteen in girth. The largest known is at Bishopton, in Renfrewshire; it is sixty feet in height and twenty in girth. The wood is used by turners, and the Scotch make a wine from the sap. The *campestre* is a small tree with a rough bark, full of deep cracks. Leaves small, and divided into five. Wood sometimes beautifully veined, and then much valued by turners.

OCTANDRIA. MONOGYNIA.
COROLLIFLORÆ. ERICACEÆ.

VACCINUM. (WHORTLEBERRY.)

Generic Character. *Calyx* superior, (that is, above the fruit or seed-vessel,) with four or five teeth. *Corolla* of one petal, divided into four or five. *Berry* globular, four cells and many seeds.

VACCINUM MYRTILLUS. *Whortleberry, Bilberry,* or *Hurtleberry.* A low and straggling shrub, spreading over large tracts of country chiefly in heathy and hilly countries. It is a pretty plant, the flowers very curious, looking as if made of wax, they are drooping, and greenish with a red tinge. Berry black, very agreeable to the taste, and much used by the Highlanders.

VACCINUM VITIS IDÆA. *Red whortleberry, Cowberry.* This is not so common as the last, though often found with it.

The flowers are pale flesh colour, and the leaves resemble those of the Box.

VACCINUM ULIGINOSUM. *Great Bilberry.* This is found in mountain bogs, in Cumberland and in Scotland. The berry is not so agreeable as the first species.

VACCINUM OXYCOCCOS. *Cowberry.* This is very pretty in appearance, and the fruit superior in flavour. It grows in peat bogs, principally in the north, also in Scotland and Ireland. In Cumberland it forms an article of great trade. The berries are gathered by the country people who are obliged to go into the water to reach them, as they grow among the bog mosses which cover the surface of clear shallow water. It is scarcely in flower till June, when amidst its straggling branches may be found the pretty rose coloured blossoms. The corolla is deeply divided, the segments turned back. The Swedes use the berry as a sauce to roast meat.

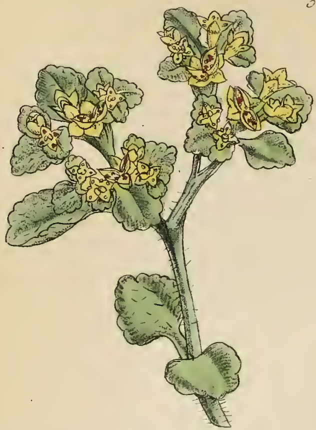
OCTANDRIA. TETRANDRIA.
PETALOIDEÆ. IRIDACEÆ.

PARIS. (HERB PARIS.)

Generic Character. *Calyx* of four leaves. *Petals* four. *Berry* four-celled, each cell with several seeds in two rows.

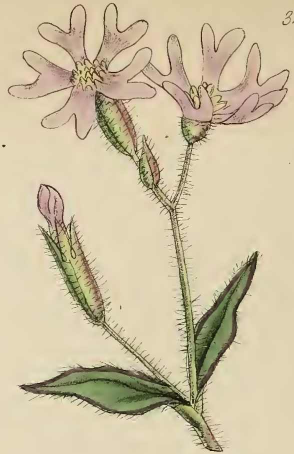
Plate 9.

33



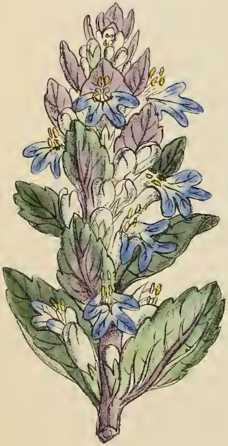
Chrysoplenium oppositifolium, *Linn.*

34.



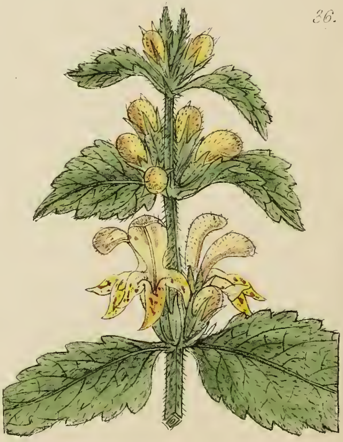
Lychnis dioica, *Linn.*

35.



Ajuga reptans, *Linn.*

36.



Galeobdolon luteum, *Sm.*

Reeve lith. et imp.

Paris quadrifolia. (Plate VIII. Fig. 32.) *Herb Paris.* This singular plant is supposed to derive its name from *pars* equal, on account of the regularity of its different parts. The calyx divisions, the petals, and cells of the berry being all of the same number. The leaves, too, are usually four, but occasionally five are found, on one plant, and I have found it in woods on the South Downs with six, and even seven. From its four cross leaves it has obtained the name of "True Lover's knot." The flowers are green, the berry purple, and probably, (judging from this circumstance) poisonous. It is found in moist and shady woods, in many places in England, and is very abundant in some parts of Sussex.

Decandria. Digynia.

Calyciforæ. Saxifragaceæ.

CHRYSOSPLENIUM. (Golden Saxifrage).

Generic Character. *Calyx* four or five-cleft and coloured. No *corolla.* *Seed-vessel* having many seeds.

Chrysosplenium oppositifolium. (Plate IX. Fig. 33.) *Golden Saxifrage.* This plant often clothes the rocks near springs and rivulets in shady places, looking like patches of green velvet. I found it covering the rocks near the waterfall in Shanklin Chine, in the Isle of Wight. Its leaves are opposite, and round. Flowers in small umbels, rather pale yellow. A good deal branched at the base.

CHRYSOSPLENIUM ALTERNIFOLIUM. *Alternate-leaved Golden Saxifrage.* Boggy places about springs, in wet, shady woods, produce this species, which is more rare than the other. Its leaves are alternate, the lower ones kidney-shaped, on long foot-stalks. Flowers in small umbels, deep yellow, and more striking than the former species, the plant is also earlier in producing its blossoms.

DECANDRIA. TRYGYNIA.

THALAMIFLORÆ. CARYOPHYLLACEÆ.

STELLARIA. (STITCHWORT.)

Generic Character. See page 94.

STELLARIA NEMORUM. *Wood Stitchwood.* Leaves large pear-shaped and stalked, upper ones oval and sessile; one to two feet high, stem weak. Calyx-leaves with white edges. Petals narrow, deeply divided in two, and pure white. The chief distinguishing mark of this plant is that of having its leaves rough, with extremely minute elevated dots. It grows in moist woods, principally in the north of England.

STELLARIA GRAMINEA. *Lesser Stitchwort.* A more common species, and very frequent on heaths, commons, and dry pastures, with its little starry white flowers peeping up among the furze, heath, and larger plants. The leaves are long and narrow, acute and entire. Its small flowers, with petals very deeply cleft, growing in a loose bunch readily distinguish it from the rest. It is about a foot high, and slender.

STELLARIA ULIGINOSA. *Bog Stitchwort.* This scarcely flowers till June, and with STELLARIA GLAUCA, *Glaucous Marsh Stitchwort,* is found in watery places, ditches, and margins of rivers; those mentioned before, belonging to much more dry situations. The former has oval, lanceolate, entire leaves; flowers with very small petals, shorter than the calyx. The latter has very narrow and smooth leaves. Flowers large, (though not attaining the size of *holostea*) on long solitary footstalks. Petals very deeply cut and longer than the calyx. Slender and about a foot high. Two other species belong to this genus, but they are rare, and only found on the Scotch mountains.

DECANDRIA. PENTAGYNIA.
THALAMIFLORÆ. CARYOPHYLLACEÆ.

LYCHNIS. (CATCHFLY.)

Generic Character. *Calyx* of one leaf divided into five at the top. *Petals* five, notched at the edge.

LYCHNIS DIOICA. (Plate IX. Fig. 34.) *Red* or *White Campion*. A common plant everywhere under hedges. The flower is both white and red. Some botanists divide them into two species, Hooker classes them together, and makes the white only a variety. The red variety is found plentifully in Devonshire, and Cornwall, and rarely in some western counties, and the white is common where the other is rare. In Sussex they are both equally common. The white is fragrant in the evening. It grows from one to two feet high, branched above, sticky about the joints of the stem. Leaves ovate, sometimes ovate and narrow. Flowers in bunches, large and handsome. Calyx tubular.

LYCHNIS FLOSCUCULI. *Meadow Lychnis* or *Ragged Robin*. This is scarcely in flower till June. It is very pretty, though from its petals being so much jagged at the edge it has a ragged appearance, whence its name. It is frequent in moist pastures, and meadows. It is about one or two feet high, the lower part hairy. Leaves long and rather narrow. Flowers in a loose bunch, petals of a pretty rose-colour, and four-cleft. Calyx and flower stalks reddish-purple.

Lychnis viscaria, and *L. alpina* are rare, found on alpine rocks. They have rose-coloured flowers.

ICOSANDRIA. PENTAGYNIA.
CALYCIFLORÆ. ROSACEÆ.

CRATÆGUS. (HAWTHORN.)

Generic Character. *Calyx* segments superior, that is, above the fruit. *Petals* roundish. *Fruit* oval.

CRATÆGUS OXYACANTHA. *Hawthorn, White-thorn,* or *May.* Everybody knows this beautiful tree, which from its early flowering has taken the name of May. In old times it was said to be always in flower by the first of the month, but the first of May of the old style was twelve days later than at present. In the hedges where it generally grows, it is but a small shrub, on account of being so often cut, but in parks, where it is allowed to grow to maturity, it sometimes attains to the height of thirty feet.

Polyandria. Monogynia.
Thalamifloræ. Papaveraceæ.

CHELIDONIUM. (Celandine.)

Generic Character. *Calyx* of two leaves, which fall off. Four *petals*. *Pistil* two-lobed. *Pod* long and narrow. *Seeds* numerous.

Chelidonium majus. *Common Celandine.* This plant may be found in flower as late as August, but it makes its appearance early. It is about two feet high, slightly hairy, and the juice, or sap yellow. Leaves much divided, the parts broadly ovate, and lobed. Flowers yellow, rather small, and growing in long stalked umbels. Pods long. It is found especially near towns and villages on waste ground.

Polyandria. Polygynia.
Thalamifloræ. Ranunculaceæ.

CLEMATIS. (Traveller's Joy.)

Generic Character. *Calyx* of four or six leaves. No *petals*. *Seed-vessels* terminated by a long feathery awn.

Clematis vitalba. *Common Traveller's Joy.* The Clematis is rare in the north, but abundant in the south, covering the hedges with its pretty greenish white blossom, and in the autumnal months, with its curious feathery seeds. The stems are very long, and soon cover a hedge, indeed, in many places it climbs to the tops of small trees. In the south of the Isle of Wight it grows in profusion, hanging its pretty blossom over rocks and trees most beautifully. The flower is, perhaps, scarcely in perfection till June or July, and it is equally beautiful in September, from its seed-vessel. The leaves are divided, and the leaf stalks act as tendrils, twining themselves round other plants like the tendrils of the vine. The flowers are fragrant.

POLYANDRIA. POLYGYNIA.

THALAMIFLORÆ. RANUNCULACEÆ.

RANUNCULUS. (CROWFOOT.)

Generic Character. See page 56.

Five species may now be added to this genus.

RANUNCULUS AQUATILIS. *Water Crowfoot.* The white flowers of this species are found at this season on most ponds and ditches. The upper and floating leaves have three lobes, and those under the surface are divided into very minute segments, so that the leaf is more like a mass of green hairs. These vary according to the depth or stillness of the water.

RANUNCULUS BULBOSUS. *Bulbous Crowfoot* or *Buttercup*. This well known species is very frequent in meadows and pastures. It is about a foot high, with many flowers. Leaves cut into three stalked leaflets, which are again divided into three lobes. Upper leaves with narrower segments. The root is bulbous.

Three other species may be found, but they are less common.

RANUNCULUS AURICOMUS. *Wood Crowfoot*. It is found, though seldom, in woods and coppices. Its leaves are small and kidney-shaped, and the stem leaves cut into narrow segments. Petals yellow, and rather larger than the calyx.

RANUNCULUS PARVIFLORUS. *Small-flowered Crowfoot*. Corn fields about London, and the south and west of England, are the localities for this species. I have found it on the South Downs. It has a spreading stem lying on the ground. Leaves hairy, three-lobed and cut. Flowers opposite the leaves, with very small yellow petals as long as the calyx.

RANUNCULUS HIRSUTUS. *Pale hairy Crowfoot*. This species is not unlike the last, but less spreading, and very variable in size; when very small it has been considered a distinct species called *R. parvulus*. Flowers small, yellow, calyx divisions turned back, leaves three-lobed and cut, hairy and silky; stem erect, and with many flowers. Found in meadows and waste ground.

DIDYNAMIA. GYMNOSPERMIA.

COROLLIFLORÆ. LAMIACEÆ.

AJUGA. (BUGLE.)

Generic Character. *Calyx* ovate nearly equal, divided into five. *Corolla* with the tube extended beyond the calyx. Upper lip short, erect; lower one larger, divided into three. *Stamens* protruded beyond the upper lip.

AJUGA REPTANS. *Common Bugle.* (Plate IX. Fig. 35.) This common plant is abundant in moist pastures and woods, found early in the season, but scarcely in perfection till this period. The stem is creeping, but the flowering part erect. Leaves broad, without stalks, except those on the new shoots or runners, which taper into a footstalk. The flowering stem has many leaves or bracteas of a purplish hue, proceeding from each whorl of flowers, the latter are generally blue, sometimes white, or flesh-coloured. This plant was formerly thought good for wounds.

Ajuga Chamæpitys. *Ground-pine,* or *Yellow-Bugle.* A rare plant, found in Kent, Surrey, Cambridge, and Essex. The flowers, yellow spotted with red, and much covered by the upper leaves. Two other species are found only in the Highland pastures.

Didynamia. Gymnospermia.
Corollifloræ. Lamiaceæ.

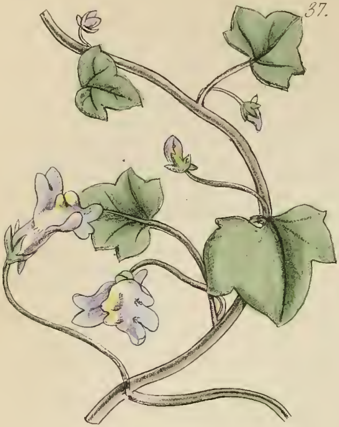
GALEOBDOLON. (Weasel-snout.)

Generic Character. *Calyx* bell-shaped, five-ribbed; upper lip of the *corolla* arched and entire; lower one smaller, in three nearly acute lobes.

Galeobdolon luteum. (Plate IX. Fig. 36.) *Yellow Weasel-snout.* Grows a foot high, leaves sharp-pointed, stalked, and much cut or serrated at the edges. Flowers whorled and yellow, lower lip orange and spotted. Found in woods and shady places, and is a very pretty plant.

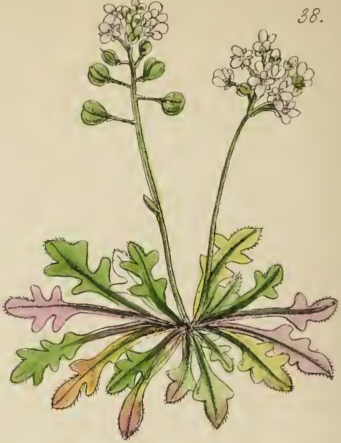
Plate 10.

37.



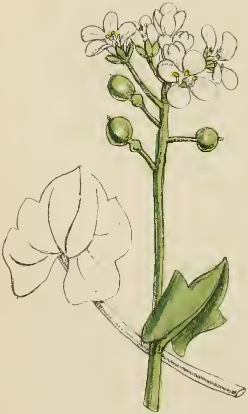
Linaria Cymbalaria, *Mill.*

38.



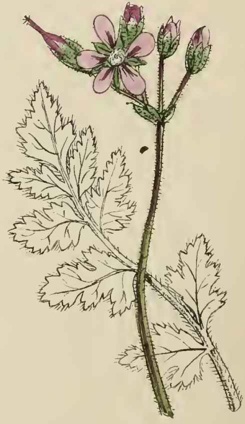
Teesdalia nudicaulis, *R. Brown.*

39.



Cochlearia officinalis, *Linn.*

40.



Erodium cicutarium, *Smith.*

Reeve, lith et imp.

DIDYNAMIA. ANGIOSPERMIA.
COROLLIFLORÆ. SCROPHULARIACEÆ.

LINARIA. (TOADFLAX.)

Generic Character. *Calyx* divided into five. *Corolla* personate (that is, having the lips closed), spurred at the base. *Seed-vessel* with two cells, opening by valves.

LINARIA CYMBALARIA. (Plate X. Fig. 37.) *Ivy-leaved Toadflax*. This is the first to make its appearance, and is easily recognized amongst the rest of the genus by several peculiarities. It grows on old walls and rocks in many places. Stems very long, trailing. Leaves cordate, five-lobed, alternate, and smooth, often purple beneath. Flowers very pretty, small, pale purple and yellow. It is in flower all the summer, and therefore may easily be compared with the rest of the genus when they appear.

TETRADYNAMIA. SILICULOSA.
THALAMIFLORÆ. CRUCIFERÆ.

TEESDALIA. (TEESDALIA.)

Generic Character. *Pouch* or seed-vessel with a notch at the top; the sides keeled like a boat. Two *seeds* in each cell.

TEESDALIA NUDICAULIS. (Plate X. Fig. 38.) *Naked-stalked Teesdalia.* This pretty little plant is plentiful in some situations where sand or gravel prevail. I have found it abundantly on banks where the soil seems composed of fine sand only.

Stem not above four inches high, with sometimes one or two small leaves; the rest being almost entirely at the root, and much divided. Flowers very small and white, two of the petals being longer than the others.

TETRADYNAMIA. SILICULOSA.

THALAMIFLORÆ. CRUCIFERÆ.

COCHLEARIA. (SCURVY-GRASS.)

Generic Character. *Seed-vessel* oval or globular, having many seeds; *valves* very convex, with a prominent rib at the back.

COCHLEARIA OFFICINALIS. (Plate X. Fig. 39.) *Common Scurvy-grass.* The three following plants are found on the sea coast, and particularly where the soil is muddy. Sand does not suit them. The first has the pouch globular; root-leaves stalked, kidney-shaped, and either entire or cut into lobes, those on the stem not stalked, and oblong; all fleshy. Flowers whitish

Cochlearia Greenlandica. *Greenland Scurvy-grass.* This is scarcely distinct from the last; the leaves are not notched at the edge, but the pouch is the same. It is frequent on the Highland mountains.

Cochlearia Anglica. *English Scurvy-grass.* Pouch elliptical and veiny. Lower leaves stalked, heart-shaped, and not cut. Upper ones oblong, a little toothed at the base. Smaller than *officinalis.*

Cochlearia Danica. *Danish Scurvy-grass.* Leaves very angular and stalked. The smallest of the species.

The Horse-radish, *C. armoracia,* is one of this genus. It is said to be found wild in the north of England, but this is very doubtful.

Tetradynamia. Siliculosa.

Thalamifloræ. Cruciferæ.

BARBAREA. (Winter-cress.)

Generic Character. *Pod* with four angles, the *seeds* in a single row.

Barbarea vulgaris. *Bitter Winter-cress, Yellow rocket.* This is a common plant in pastures and hedges, and its bright yellow flowers make it conspicuous. It grows about two feet high, with a stout, furrowed, and branched stalk. Lower leaves lyrate, the last lobe rounded; the upper toothed, often having the base so cut as to look like distinct leaves. There is another species found in Devonshire, the *B. præcox,* but it is thought hardly wild.

TETRADYNAMIA. SILICULOSA.
THALAMIFLORÆ. CRUCIFERÆ.

MATTHIOLA. (STOCK.)

Generic Character. *Pod* rounded, or flattened at the sides. *Stigma* of two erect lobes, convex or horned at the back. *Calyx* erect.

MATTHIOLA INCANA. *Stock.* This well known garden plant is found growing near the sea, but even then supposed not to be truly wild. It is seen on cliffs eastward of Hastings. I have little doubt that I saw it growing on the sea cliffs near Ventnor, in the Isle of Wight, but too high for examination. Stem shrubby, upright and branched; leaves lanceolate, hoary, entire; pods cylindrical. Another species, MATTHIOLA SINUATA, is found on the sandy shores of

Cornwall and Wales. It has large purple flowers, which are fragrant at night. Stem herbaceous, spreading; leaves oblong, downy; pods compressed.

TETRADYNAMIA. SILICULOSA.
THALAMIFLORÆ. CRUCIFERÆ.

BRASSICA. (CABBAGE and TURNIP.)

Generic Character. *Calyx* erect and closed. *Seed-vessel* long, round, opening by two valves. *Seeds* in one row.

There are five species of this useful genus of plants, all in flower in this month, or early in the next.

BRASSICA NAPUS. *Wild Navew, Rape,* or *Coleseed.* This species is found in cornfields and waste places, it is cultivated for the oil produced by its seeds, which, after being pressed, are formed into cakes, and used as manure, and for feeding cattle. Its flowers are yellow, and small. Leaves smooth, upper ones having no stalk, and rather long and heart-shaped. Lower ones lyrate, that is, divided into four or six parts, the terminal one being large and round.

BRASSICA RAPA. *Common Turnip.* Borders of fields and waste places produce this species. It varies in height according to soil. The root-leaves are shaped like the last species, but rough, those of the stem nearly smooth, and not stalked. Flowers rather large and yellow.

BRASSICA OLERACEA. *Sea Cabbage.* This is the origin of our garden cabbage, which we find so useful. It is found in a wild state on sea cliffs, in Devonshire, Cornwall, Yorkshire, and at Dover. The flowers are large, and yellow. Leaves thick and fleshy. Another species of cabbage, called *B. Monensis,* is found in the Isle of Man, and on both shores of the Irish Channel. The stems are prostrate, and the leaves are much liked by cattle.

BRASSICA CAMPESTRIS. *Common wild Navew.* It is found in corn-fields, and on the sides of rivers and ditches. Stem slender and hairy below. Flowers yellow. Pod upright, nearly round, seeds forming slight prominences. Leaves heart-shaped, not stalked. Lower leaves lyrate, like those of the species *Napus.*

MONADELPHIA. PENTAGYNIA.
THALAMIFLORÆ. GERANIACEÆ.

ERODIUM. (STORK'S-BILL.)

The Linnæan class *Monadelphia* includes only the Geranium and Mallow tribes, so that it is more easily understood than others. The former genus has two divisions. *Erodium* having *five* perfect stamens and a bearded seed-vessel or awn, and *Geranium* having *ten* perfect stamens, and a naked awn. The generic distinctions will apply equally to both, with this exception. See page 107, where *Geranium* is first mentioned in April.

ERODIUM CICUTARIUM. (Plate X. Fig. 40.) *Hemlock Stork's-bill.* This pretty plant is plentiful in waste ground, and flowers all the summer months. The stem is prostrate and hairy. Leaves very much divided, each leaflet again divided and cut. Flowers in small umbels, purplish, sometimes white.

ERODIUM MOSCHATUM. *Musky Stork's-bill.* This is only found, (and then rarely) in mountainous pastures, is larger than the last, the leaves have much less deeply cut leaflets, and yield a powerful smell of musk.

ERODIUM MARITIMUM. *Sea Stork's-bill.* This is rare also, and grows on sandy sea coasts, but it has lately been found at Mansfield, Nottinghamshire, near rocks at the entrance to that town. It was in a very small quantity, and is now, I fear, eradicated, as the bank has been cut down. Its flowers and leaves are exceedingly small.

GERANIUM. (CRANE'S-BILL.)

Generic Character. See page 107.

GERANIUM DISSECTUM. *Jagged-leaved Crane's-bill.* This is a pretty species. Its round and much divided leaves, and the short foot-stalks of its flowers, make it easily distinguished from the rest. It has only two flowers on each stalk, the petals notched, and rather shorter than the calyx. The stems spreading. Hedges and waste places are the localities of this species.

GERANIUM PHÆUM. *Dusky Crane's-bill.* This is supposed to be introduced, by being cast out of gardens. It is easily known from the rest, as the flower is a dusky purplish black.

DIADELPHIA. HEXANDRIA.

THALAMIFLORÆ. FUMARIACEÆ.

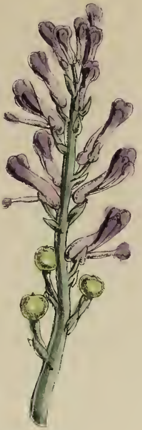
FUMARIA. (FUMITORY.)

Generic Character. *Calyx* of two leaves, which fall off. *Petals* four, one spurred at the base. *Seed-vessel* having only one seed.

FUMARIA OFFICINALIS. (Plate XI. Fig. 41.) *Common*

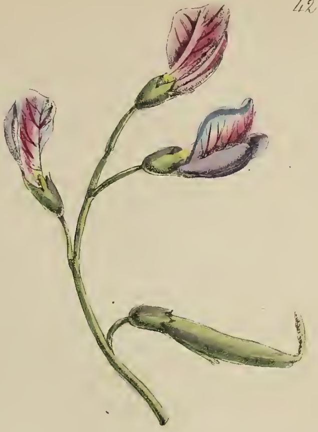
Plate 11.

41.



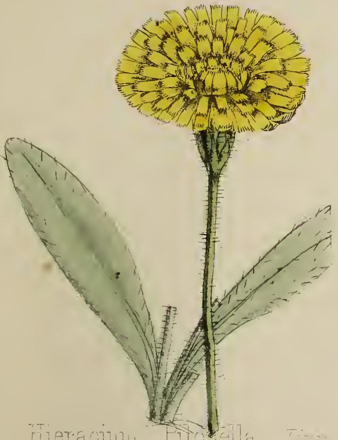
Fumaria officinalis, *Linn.*

42.



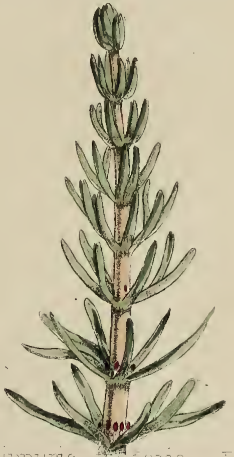
Orobus tuberosus, *Linn.*

43.



Hieracium Pilosella, *Linn.*

44.



Hippuris vulgaris, *Linn.*

Reeve, lith. et imp.

Fumitory. This pretty plant is very common in dry fields and road sides, and flowers throughout the summer. Its calyx leaflets are oval, lanceolate, acute, and sharply toothed, scarcely so long as the seed-vessel. Corolla purplish, with a dark spot. Flowers forming a thick spike. Leaves very delicate and much divided.

FUMARIA CAPREOLATA. *Ramping Fumitory*. The flowers of this beautiful little plant are of a lighter colour than the more common species. The stems very climbing. Leaves divided, the leaflets broad. Calyx leaves broadly oval, scarcely acute, and twice as long as the seed-vessel. It is found in gardens and corn-fields, but often hanging very elegantly from rocks. I found it thus growing on the rocks of the Undercliff, in the Isle of Wight. There is another species, the *parviflora*, but it is rare, and flowers in September.

DIADELPHIA. DECANDRIA.

CALYCIFLORÆ. FABACEÆ.

GENISTA. (GREENWEED.)

Generic Character. *Calyx* two-lipped, upper with two deep segments, one with three teeth. *Pod* flat, many-seeded.

GENISTA ANGLICA. *Needle Greenweed,* or *Pettywhin.* Not unfrequent on moist heaths and moors, but easily passed over if not sought for, as it resembles at first glance the *Ulex.* Its stems are declining, and very much beset with spines, except the flowering branches, which are free. The leaves are very small, smooth, and narrow. Flowers yellow, in small spikes. Pod smooth. Another species less common, *Genista pilosa,* is found on dry sandy heaths. It flowers twice in the year, in May and September. Its leaves are very small, and silky beneath, flowers yellow, stems reclining, but it has no spines, and the pods are downy.

DIADELPHIA. DECANDRIA.
CALYCIFLORÆ. FABACEÆ.

OROBUS. (BITTER VETCH.)

Generic Character. *Pistil* long and narrow, downy above, which becomes the *seed-vessel.* *Calyx* obtuse at the base, its upper segments deeper and shorter. The *leaves* have no tendrils which distinguishes it from the Vetches.

OROBUS TUBEROSUS. (Plate XI. Fig. 42.) *Tuberous Orobus.*

A pretty plant found in thickets and hedges, and particularly plentiful in Surrey and Sussex. The Highlanders say that a small quantity of the root eaten prevents hunger and thirst. It is called by them Cormeille. In Holland the root is roasted like Chesnuts, and is said to resemble them in flavour. In England we make no use of this plant. The flower is pretty. Its pea-shaped blossoms are of a pinkish purple, and marked with purple veins. The leaves are divided into two or four pairs of narrow leaflets, with no tendril, but a curious shaped leaf called a stipule, where the leaf-stalk joins the stem. It is about a foot high. Seed-vessel long, round, and black.

There are two other species, but both rather rare, and found principally in the north of England and Scotland.

Diadelphia. Decandria.
Calycifloræ. Fabaceæ.

TRIFOLIUM. (Trefoil.)

Generic Character. *Seed-vessel* having one or more seeds, shorter than the *calyx* by which it is covered. *Flowers* in heads. *Leaves* divided into three parts.

This genus is easily known by the shape of its leaves, and the heads of pea-shaped flowers. Trefoil means three leaves. They are very sensitive of damp, and the leaflets close under its influence. Abroad some species of this genus grow to a height even greater than that of a man. There are seventeen species, some scarce, others very common.

TRIFOLIUM REPENS. *White Trefoil*, or *Dutch clover*. This is very common throughout the summer. The head of flowers is white, and the leaflets often have a dark spot at their base, with a white line bordering it near the middle. It is of great use for feeding cattle.

TRIFOLIUM PRATENSE. *Common purple Trefoil*. Easily recognized by its reddish purple head of flowers. The leaflets are often marked also with a white spot. This is the common clover, so much cultivated for hay.

TRIFOLIUM SUBTERRANEUM. *Subterraneous Trefoil*. This is a curious little species, and derives its name from the seed-vessels burying themselves in the ground at a certain period of their growth, another extraordinary variety in the ways of nature. The young fruit, or seed-vessel, becomes bent, and from the top of the branch arise many thick short fibres, which bend over the fruit, and serve to bury it in the ground. The footstalk of the head of flowers has become long, to enable it to reach this point. It is a small plant from three to six, or eight inches long, lying on the ground. The flowers are long, very slender, and nearly white. It is found in dry gravelly fields.

Trifolium scabrum. *Rough rigid Trefoil.* A small spreading species in chalky and dry sandy fields in several parts of England, but not very common. The oval heads of flowers are small, and not on long footstalks as is usual with the rest. Flowers very small, and yellow. Leaves like the other species, divided into three parts, silky and strongly nerved.

Diadelphia. Decandria.

Calycifloræ. Fabaceæ.

MEDICAGO. (Medick.)

Generic Character. *Seed-vessel* with one cell, one or many *seeds*, and spirally twisted.

Medicago maculata. *Spotted Medick.* This has the leaves similar to the Trefoils, divided into three, and with a purplish spot in the centre. The seed-vessel is curious, and causes it to be readily distinguished. The pod is rolled up so as almost to resemble a little shell, the whole bunch, therefore, has a very pretty appearance. The flower is very small and yellow, three or five together. It seems confined to the middle and south of England, in gravelly fields.

MEDICAGO LUPULINA. *Black Medick*, or *Nonsuch*. Another small species, somewhat similar to the last, but the flowers, though as small, are in larger heads, formed of a larger number; the seed-vessels are small and rugged, and turn black when drying. It is more plentiful, and common in waste places and cultivated fields.

SYNGENESIA. ÆQUALIS.
COROLLIFLORÆ. ASTERACEÆ.

LEONTODON. (DANDELION.)

Generic Character. *Involucre* formed of scales lying one over the other. *Flowers* in many rows. *Seeds* with feathery sails. *Receptacle* naked.

This common plant requires but little description. It flowers all the summer, and is useful to the bee on account of its honey, and to birds which are fond of its seeds. These are beautiful objects, each one being armed with a little sail, as it may be called, to carry it away from the parent plant.

The curved seed, and the elegant feathery crown, sail about in the air most gracefully, and as long as this is the case the seed is not dropped, but as soon as they touch the ground, or a twig, the seed falls out, and the feathery plume rises and sails away again, till caught by something to which it adheres. There are two species; the *L. Teraxacum*, Common Dandelion, is frequent in meadows and pastures everywhere, and at most seasons, and the second, *L. palustre*, Marsh Dandelion, found in wet pastures in Cambridgeshire and Norfolk, does not differ greatly from the more common species.

SYNGENESIA. ÆQUALIS.
COROLLIFLORÆ. ASTERACEÆ.

HIERACEUM. (HAWK-WEED.)

Generic Character. The *calyx* formed of oblong scales. *Receptacle* nearly naked and dotted. *Fruit* angular, furrowed with an entire or toothed margin.

HIERACEUM PILOSELLA. *Common Mouse-ear Hawk-weed.* This species is distinguished from the rest of this troublesome genus, by the pale lemon-coloured flowers, and its small leaves, white beneath with down. It is very pretty, and is the earliest of its genus, so that this one being impressed on the mind, the rest of the family may be known, though the specific characters are difficult to determine.

GYNANDRIA. MONANDRIA.

PETALOIDEÆ. ORCHIDEÆ.

ORCHIS. (ORCHIS.)

Generic Character. See page 109.

Several plants belonging to this very interesting tribe are now in full beauty, and may be added to the *Orchis mascula*, of last month. Kent is particularly famed for several species, amongst which is the

ORCHIS MORIO. *Green-winged meadow Orchis.* This species is so like the *mascula*, that it is often overlooked. By examination it may be distinguished. It is found in meadows and pastures, and often growing with that species, but the flowers are of a darker purple colour, and not so numerous on the spike. The lip is pale in the centre, with purple spots, three-lobed, the calyx leaves ribbed, purplish green, forming a sort of helmet over the rest of the flower. The spur is not so long as in the *mascula*.

Orchis fusca. *Great brown-winged Orchis*. It is found in woods, or chalky pastures, on the borders of woods. It has a very handsome spike of brownish-purple flowers. Stem often two feet high, and therefore showing the blossom conspicuously. The upper part of the flower, or helmet, as it is called, is of a dark greenish purple, the lip paler and spotted, deeply divided into three, with rough, raised, dark points. Leaves ovate, oblong, and obtuse.

Orchis militaris. *Military Orchis*. May now be found about Reading, plentifully, and on chalky hills. It is very like the last in most particulars, but the helmet is pale ash coloured, lip deep purple, white in the middle. Leaves oblong, rather acute.

Orchis tephrosanthos. *Monkey Orchis*, is a beautiful and curious species, smaller and more slender than the last. Flowers pale purple, spotted. Lower lip divided into narrow parts, deep purple, and covered with minute straight crystalline points. It is found on the chalk hills of Oxfordshire, Berkshire, and Kent.

Orchis maculata. *Spotted palmate Orchis*. Is a much more common species, found in pastures and heaths, and is easily recognised, as the spike of flowers is of a much lighter hue than the other species yet found. The flowers are white, or pale purple, more or less spotted, and streaked, especially the lip. The leaves are distinct, and spotted with purple.

Orchis (Habenaria) bifolia. *Butterfly Orchis.* A most beautiful species, and very different from the rest. It does not generally flower till the following month, or at least till the latter end of May. In some places (woods on the South Downs, Sussex), it is very common indeed, but confined to certain districts. Marsh copses are its principal localities. It grows a foot and a half high, with two or three large root leaves, and three or four small ones on the stalk. The spike is long, with many rather large, yellowish-white, very fragrant flowers. The spur is very long and narrow.

Besides these there may be found in Kent, the rare Spider and Drone Orchis, and the Fly, the latter, also, in Norfolk, Suffolk, Surrey, and I have found it in Sussex. They are all curious and interesting, and soon recognized when the more common kinds are known. Next month several more of this family will be added, and even now, I think, we may mention the genus Listera, in which two species were found in profusion during the last week of this month (1846), though usually they do not show their curious blossoms till the following month. They seem to differ principally from the Orchis by the lip of the flower being divided into two, not three.

LISTERA OVATA. *Common Twayblade.* The English name is well applied here, for the great characteristic of the plant is the having only two leaves, but they are very conspicuous in size, and are opposite to each other, the spike of flowers rising up between them. The flowers are distant, yellowish-green, and very curious on examination, being well worth a walk to obtain. Equally worthy of examination is the following curious species.

LISTERA NIDIS AVIS. *Common Bird's-nest.* It is an extraordinary looking plant. In the first place, the root is composed of a number of fibres (not usually the case with the Orchis tribe), which cross one another in a curious manner, so as to look like a bird's-nest, whence its name. The colour of its flower is a delicate shade of brown, and at a distance it has the appearance of a dead flower, but on examination it is found to be very beautiful and delicate in all its parts. The stem is about a foot high, having no leaves, but shining scales. These two species are usually found together in shady woods in many parts of England. In profusion on the South Downs.

LISTERA CORDATA. *Heart-leaved Twayblade.* A less common species, found in most shady woods in the north of England; it is much smaller than the *ovata*, though not unlike it in other respects. The flowers are green, and conspicuous. These three form the genus.

MONŒCIA. TRIANDRIA.

GLUMACEÆ. CYPERACEÆ.

CAREX. (SEDGE.)

This genus contains sixty-three species, and as very many difficulties arise in its study, I shall not introduce it to the notice of young students, but refer them, when they wish for information on this extensive genus to a good botanist for instruction, or to good plates on the subject. They are very like the grass tribe, but easily distinguished by the stem being solid instead of hollow, and the sheaths of the leaves undivided. They are, usually, insignificant in appearance, and grow in moist and boggy places.

MONŒCIA. PENTANDRIA.

COROLLIFLORÆ. CUCURBITACEÆ.

BRYONIA. (BRYONY.)

Generic Character. Barren flowers: *Calyx* five-toothed. *Corolla* five-cleft. *Anthers* five. Fertile flower: *Calyx* and *corolla* the same, *pistil* divided into three. *Berry* globular, with many seeds.

BRYONIA DIOICA. *Red-berried Bryony.* Thickets and hedges in England produce this elegant plant. It is called Wild Hop in some places, in others Wild Vine, for it twines like both those well known plants, and its long curling tendrils are beautifully adapted for clasping stouter plants and supporting its stems, which are frequently four or five feet long. Linnæus notices its very rapid growth, and attributes it to its large white root, which was formerly used as a medicine; when fresh, it is hot and biting, but it loses this quality when dry, and has been used as flour by the poor when other food was scarce. The leaves are large and palmate, that is, divided somewhat like a hand. Flowers in bunches at the roots of the leaves; corolla whitish, with green veins, and though inconspicuous, the flowers are very beautiful. In autumn, the berries, which are red, are conspicuous, as the leaves begin to die away, and leave them exposed. They are, however, useless as food, though beautiful to the eye, for they abound with a fetid juice which is poisonous to man, though not to birds. The goat is fond of the leaves, but other animals refuse them.

MONŒCIA. POLYANDRIA.
MONOCHLAMYDEÆ. CORYLACEÆ.

CARPINUS. (HORNBEAM.)

Generic Character. Barren flower in a cylindrical *catkin.* Fertile in a loose catkin. *Nut* oval and one-seeded.

CARPINUS BETULUS. *Hornbeam.* Rather a small tree, in woods and hedges in poor damp soils. It has somewhat heart-shaped, acute leaves, doubly cut at the edges, and the veins hairy. The wood is white, tough, and hard, and burns like a candle. It is useful to the turner, and for implements of husbandry.

Monœcia. Monadelphia.
Monochlamydeæ. Pinaceæ.

PINUS. (Fir.)

Generic Character. Barren *catkins*, with stalked flowers. *Scales* of the cone thickened and angular at the end. *Seeds* with a winged coat.

Pinus sylvestris. *Scotch Fir*. Only grows naturally in the Highlands of Scotland, and is so well known as a tree in plantations in England, that it need not be described particularly. The wood is useful for many purposes, and is called red or yellow deal. The bark is used in tanning. Tar, pitch, and turpentine are the produce of this tree. In the north of Europe the bark is sometimes ground and made into bread. When growing together in plantations, it becomes a stiff tree without side branches, and it is then very valuable to the timber merchant for masts, spars, scaffold poles, &c. But when standing alone, or nearly so, it is a very picturesque object, with its tall red and grey trunk of enormous size, and often graceful form, and its thick head of foliage reared high in the air. Its side-branches often present the most fantastic forms.

Diœcia. Tetrandria.

Monochlamydeæ. Empetraceæ.

EMPETRUM. (Crowberry, or Crakeberry.)

Generic Character. *Calyx* divided into many parts like scales, the three inner resembling petals. Barren flower: three *stamens*. Fertile: *Stigma* with from six to nine rays. *Berry* six to nine-seeded.

Empetrum nigrum. *Crowberry*. This little shrub grows on mountainous heaths in the north, and affords abundant food for the moor game. It is a small trailing shrub with curious leaves, for the edges curl up till they meet at the back. Flowers small and purple. Berries black and in clusters. It is used as a dye.

Diœcia. Tetrandria.

Monochlamydeæ. Loranthææ.

VISCUM. (Common Misseltoe.)

Generic Character. In the barren flower there is no *calyx*. The four *petals* are fleshy, ovate, united at the base, and each bearing an *anther*. In the fertile flower the *calyx* is only an obscure margin. *Petals* four, erect, ovate, and very minute. *Berry* bearing one seed.

Viscum album. *Misseltoe.* A curious and well known plant, growing on trees, and living by their juices, thence called *parasitic*. It generally destroys the branch on which it grows. It is mostly found on the Apple tree, less frequently on the Oak, and this circumstance made it so sacred to the Ancient Britons. The origin of placing this plant in our houses at Christmas is now lost, but some authors suppose that the Druids had an idea that the spirits of the woods, would take shelter in it when the leaves had fallen from the trees, and therefore they brought it into their houses. We use it now, with Holly, as a token of joy at that season, and also partly to remind us of old customs.

Diœcia. Tetrandria.
Monochamydeæ. Myricaceæ.

MYRICA. (Gale.)

Generic Character. Scales of the *catkin* concave. *Stamens* four to eight. *Fruit* a drupe: that is, formed of a stone, and a fleshy covering, like the peach.

MYRICA GALE. *Sweet Gale,* or *Dutch Myrtle.* Boggy and mossy ground, especially in Scotland, abounds in this sweet-scented plant. The inhabitants use it for scenting their clothes, and for driving away moths, and in many places beds are made of it. The odour is even more powerful than that of the Myrtle, whether fresh or dry. In Sweden it is put to many useful purposes, being employed in medicine, dyeing, and instead of hops for beer; also for brooms. In Devonshire, where it grows in abundance on Dartmoor, the inhabitants boil it, and the waxy substance, which rises to the surface of the water, is made into tapers, which give out a very pleasant smell when burning. It has a shrubby stem, and narrow leaves, cut at the edges, and broader at the top than the bottom. The flowers are not ornamental, growing like the hazel-nut in a catkin.

DIŒCIA. MONADELPHIA.
MONOCHLAMYDEÆ. PINACEÆ.

JUNIPERUS. (JUNIPER.)

Generic Character. *Stamens* from four to eight on the lower edge of the scale. *Scales* of the fertile catkin imbricated, or lying over each other; lower ones barren.

JUNIPERUS COMMUNIS. *Common Juniper.* A shrub very variable in size, frequent in woods and heaths, and abundant in the mountains of Scotland, Ireland, and Wales. The flowers are small, the leaves narrow and very numerous. The berries, which are blueish black, are useful in giving flavour to gin, and form an important article of commerce in Holland. In Sweden and Norway it is used for many domestic purposes, for strewing on floors, and in dairies, in order to keep the milk-pans sweet; a preserve is made from the berries, and beer also, so that it is a plant of great utility to the northern nations of Europe. They also use the wood for making fires.

CHAPTER V.

JUNE.

I trust the young botanist will not be dismayed by the number of plants to be examined during this beautiful month, when spring has yielded to summer, and most places are crowded with vegetation ; still, no one will be so fortunate as to meet with all, and therefore some part of the difficulty is lessened at once. Flowers with their odours and endless hues, constitute, at this season, one of our most pleasing and innocent recreations. Sterile tracts, as heaths, and moors, even begin to assume a gay appearance, though their principal ornament, the heath plants, are only now budding. The interest which a common walk in the fields receives from the study of botany can only be known to those who have experienced it, and I trust my readers will soon feel that pleasure. Every walk will add fresh specimens to the herbarium, and a little steady devotion to the subject at first, will save much uncertainty in the end. Even if the genus alone be discovered much is done towards determining what the plant is, and the specific name will be known in time. In this little work, the specific distinctions are so simply described, that I hope if the one be discovered the other will soon follow. The time of flowering in plants, must, of course, vary with the mildness or severity of the season, and many of those here mentioned may, in a backward spring, not be found till the commencement of next month, and in an early season some would be discovered in May. Therefore, if a plant is gathered which does not seem to be mentioned in its proper place, search must be made in the previous or following month. The class must be first decided before anything else is done, and then it will be easy to refer to the place in which it is likely to be described.

A few difficulties must not discourage, the more the study is cultivated, the sooner they will disappear. As the knowledge widens, the enjoyment increases; and what is of no small moment, the study of these, perhaps the lowliest works of God, will teach us to look up with gratitude and admiration to him whose care is over all his works, "from the cedar that is in Lebanon, even unto the hyssop that springeth out of the wall."

MONANDRIA. MONOGYNIA.

CALYCIFLORÆ. HALORAGEÆ.

HIPPURUS. (MARE'S TAIL.)

Generic Character. *Calyx* and *corolla* simple and superior, forming a very indistinct rim to the *pistil*. *Fruit* a small one-celled nut.

HIPPURUS VULGARIS. (Plate XI. Fig. 44.) *Common Mare's tail.* A very singular plant, and the first that makes its appearance in this class. There is only one species, and it is so unlike any other plant, except perhaps *Equisetum*, mentioned at page 118, that when found it is easily recognized. It has a long stem, erect, simple, and jointed. Leaves in whorls, about eight, narrow and small. Flowers very small, and at the base of each of the upper leaves. The small rim, or calyx and corolla, encloses the pistil and one stamen, which has a large two-lobed anther. It grows in ditches, and stagnant waters.

DIANDRIA. MONOGYNIA.
COROLLIFLORÆ. OLEACEÆ.

LIGUSTRUM. (PRIVET.)

Generic Character. *Corolla* four-cleft. *Berry*, with two cells, and two *seeds* in each.

LIGUSTRUM VULGARE. *Privet.* Description is scarcely necessary for this well-known shrub. It is found wild in thickets and hedges, and is frequently planted for fences, as it bears clipping well. Its white flowers are pretty, and the leaves rather narrow. Berries black.

DIANDRIA. MONOGYNIA.
COROLLIFLORÆ. SCROPHULARIACEÆ.

VERONICA. (SPEEDWELL.)

Generic Character. See page 41.

VERONICA BECCABUNGA. *Brook-lime.* Another species of Speedwell may now be added to the list. It is handsome and easily distinguished by its situation. Ditches and water-courses are its localities, being never found in dry situations. The spikes, of many bright though rather dark blue flowers, are very pretty, and grow from the sides of the stalk, so that it belongs to the second division mentioned last month. The leaves are very smooth and succulent, as well as the whole plant. The stem is procumbent, taking root at the base. This species is often found in the same stream with the Water-cress. There are still two species of this interesting genus, which must be mentioned next month.

DECANDRIA. MONOGYNIA.

COROLLIFLORÆ. SCROPHULARIACEÆ.

PINGUICULA. (BUTTERWORT.)

Generic Character. *Calyx* two-lipped, upper lip divided into three, lower, of one notched lobe. *Corolla* spurred. *Leaves* thick and greasy to the touch.

PINGUICULA VULGARIS. *Common Butterwort.* The species of this genus are not very common except in certain localities. They are called *Butterwort* from the leaves having the power of coagulating milk. The Laplanders and other northern nations make great use of them for this purpose. They pour the warm milk upon the leaves, when it becomes very creamy, this they strain, and in a few days it is fit to eat, being of an agreeable acid. The leaves of this species are all near the root, or radical, as the term is, covered with minute crystalline points, fleshy, and the sides rolled up. There is only one flower to each stalk, which is very handsome, purple, and drooping. Leaves numerous, oblong and rough. It is abundant in the north, in bogs and on moist banks.

PINGUICULA LUSITANICA. *Pale Butterwort.* This species is confined to the west side of the kingdom, where it is found in marshy places and wet moors. It is smaller than the last, with very pale purplish yellow flowers, and leaves of a thin texture, veiny and hairy. Two other species belong to the genus, but one is only found in Ireland and the other in Scotland very rarely.

DIANDRIA. MONOGYNIA.

COROLLIFLORÆ. LAMIACEÆ.

LYCOPUS. (GYPSYWORT.)

Generic Character. *Calyx* tube-shaped, and divided into five at the top. *Corolla* tubular also, but divided into four, the upper divisions broader and notched.

LYCOPUS EUROPÆUS. *Common Gypsywort,* or *Water*

Horehound. The English name is derived from the plant yielding a black dye, which is used by gypsies to stain their faces. There is only one species, which grows in ditches and on river banks. The leaves are opposite, with short stalks, wrinkled and very deeply cut at the edges. Flowers small and in thick whorls at the base of the leaves, whitish with purple dots. Stem about two feet high, erect and four-sided.

DIANDRIA. MONOGYNIA.

CALYCIFLORÆ. ONAGRACEÆ.

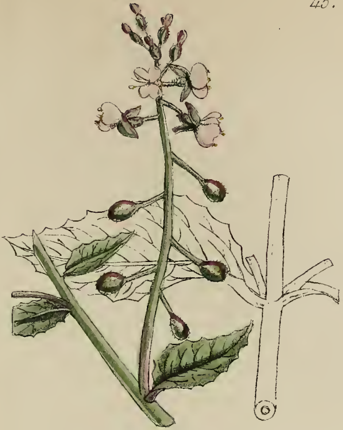
CIRCÆA. (ENCHANTER'S NIGHTSHADE.)

Generic Character. *Calyx* two-leaved, but united in a short tube at the base. *Corolla* of two petals. *Seed-vessel* of two cells, each having one seed.

CIRCÆA LUTETIANA. (Plate XII. Fig. 45.) *Common Enchanter's Nightshade.* This is one of the most elegant wild flowers we have. It is common in shady woods and coppices, rocky banks, &c. Its small white or rose-coloured flowers are well worthy of examination, they grow in a long spike, rather distant from each other, and leave a hairy seed-vessel.

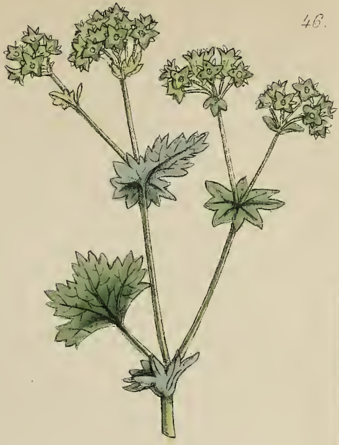
Plate 12.

45.



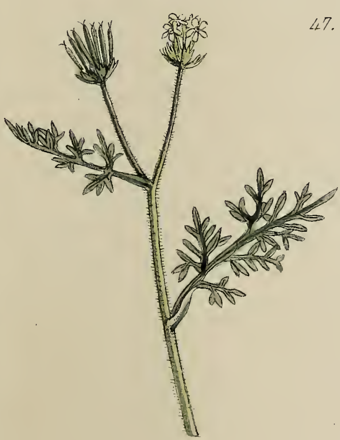
Circæa lutetiana, *Linn.*

46.



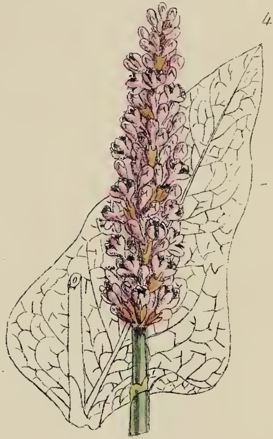
Alchemilla vulgaris, *Linn.*

47.



Scandix Pecten-Veneris, *Linn.*

48.



Polygonum Bistorta, *Linn.*

Reeve lith et imp.

The leaves are ovate, pointed and toothed. Upper ones narrower. Stem erect and about a foot and a half high. It has derived its name of Enchanter's night shade either from the beauty of its flowers, or from its growing in damp places where plants used for incantations were found.

CIRCÆA ALPINA. *Alpine Enchanter's Nightshade.* This species is very like the last, only smaller. The flowers are the same but appear rather later. It is found principally in woods and coppices in stony places, especially by the sides of lakes in the north of England.

DIANDRIA. MONOGYNIA.

PETALOIDEÆ. PISTIACEÆ.

LEMNA. (DUCKWEED.)

This curious plant may now be found on stagnant waters, and though unheeded by most people, is of so singular a construction that I advise the young botanist to examine it carefully. I will quote Hooker's description of the genus: "Fronds (which are the parts lying on the water) without distinct stems or leaves, floating on the surface of the water, and increasing not only by seeds, but far more abundantly by gemmæ or buds, concealed in lateral clefts of the parent frond, which growing out on two opposite sides into new plants, and these again producing offspring in the same way, while still attached to their parent, present a most curious appearance." It will be seen by this account that these plants have apparently only a flat leaf and roots proceeding from it, for the flowers are so inconspicuous that they are seldom observed, and though the anthers rise above the water during the flowering season, and may be seen if closely examined. One species,

LEMNA POLYRHIZA. *Greater Duckweed.* Though frequently seen on our ponds has seldom been found in flower in England. It has a larger leaf than the rest. The common species,

LEMNA MINOR, *Lesser Duckweed,* is found on most stagnant waters, affording food for ducks, and shelter for insects and mollusca. The frond, or leaf, is nearly round, thick and succulent, slightly convex beneath, with the roots hanging from them. Another species,

LEMNA TRISULCA, *Ivy-leaved Duckweed,* is easily known from the last by the different shape of its leaves, which are long instead of round and thin in substance.

LEMNA GIBBA, *Gibbous Duckweed,* is not very common;

the size of *L. minor,* but the under part is very much more convex, and is white, pellucid, and beautifully cellular.

TRIANDRIA. MONOGYNIA.

COROLLIFLORÆ. VALERIANACEÆ.

VALERIANA. (VALERIAN.)

Generic Character. *Flower* superior, that is, not inclosing the fruit or seed-vessel. *Calyx* a thickened margin at the top of the *germen,* afterwards becoming a feathery wing. *Corolla,* formed of one piece divided into five, and spurred at the base.

VALERIANA RUBRA. *Red Valerian.* This handsome flower is thought not to be a native, but to have naturalized itself from gardens. Its native country is the south of Europe. It grows in Kent, apparently wild, in chalk pits and old walls, and on the cliffs, in the Isle of Thanet. Also in the Isle of Wight. It is a foot or more high, with smooth, opposite, slightly toothed leaves. Flowers very small, of a fine deep rose colour, in a thick head, the corolla having a long narrow spur.

VALERIANA DIOICA. *Small Marsh Valerian.* Six or eight inches high, root-leaves roundish, those of the stem much divided. Flowers a pale rose colour and very pretty. It is found in marshy meadows.

VALERIANA OFFICINALIS. *Great wild Valerian.* A common plant in moist places. It is larger than the before-mentioned species, being two or three feet high. Its leaves very much divided into four or five pairs of leaflets, which, with its large bunch of pale flesh-coloured flowers, easily distinguish it. It is said that cats are very fond of the smell. The species *V. Pyrenaica* is scarcely admitted as a native: it comes from the Pyrenees.

TRIANDRIA. MONOGYNIA.
GLUMIACEÆ. GRAMINACEÆ.

NARDUS. (MAT-GRASS.)

Generic Character. No *calyx*. *Corolla* of two-valves.

NARDUS STRICTA. *Mat-grass.* This little grass is abundant on moors and heaths. It grows in little tufts and is so stiff that cattle will not eat it. Spike of flowers long, erect, the florets all pointing one way.

PHLEUM. (CAT'S-TAIL GRASS.)

Generic Character. *Panicle* compact. *Calyx* of two nearly equal, sharp, taper-pointed valves, single-flowered. *Corolla* of two awnless valves included in the calyx, loosely covering the seeds.

PHLEUM PRATENSE. *Common Cat's-tail Grass.* Very common in meadows and pastures, and very valuable for hay. When this grass grows in a dry soil, or the season is not wet, the roots, which are ordinarily composed of fine fibres, become covered with little juicy balls like beads, and these supply the plant with nourishment till the rain returns. It has a long cylindrical spike of flowers, and when the anthers project as they ripen, it is a very pretty object. There are several other species, but this is the most common.

HOLCUS MOLLIS. *Creeping Soft Grass,* and

HOLCUS LANATUS. *Meadow Soft Grass.* Amongst the variety of grass, perhaps, this genus may be distinguished by the peculiar softness and delicacy of the panicle of flowers. It is spreading, upright, rather close, downy, and commonly of a delicate light apple-green colour, tinged with pink. The latter species is the most common, and is abundant in meadows. It is extremely downy and soft. Cattle and horses are said to dislike it.

Poa annua. *Annual Meadow Grass.* This is the grass which is found everywhere, in fields, road-sides, walks, and, in short, the common grass which we tread under our feet, thereby rather improving than injuring it. It is excellent food for cattle, and plentiful according to the richness of soil.

Briza media. *Common Quaking Grass.* Most young people are acquainted with this extremely pretty plant. The spikes of flowers are very elegant, and the thread-like stalks to each spikelet are tremulous with the slightest wind; whence its name. The leaves are short. This is a common species in meadows, but another called *B. minor*, from its smaller size, is only found in the extreme south of England, and Jersey and Guernsey. It flowers later also.

I will mention one more common grass, and then leave the reader to consult other authors on this intricate family of plants.

Lolium perenne. *Perennial Darnel,* or *Rye-grass.* All country children are familiar with this grass, it being that by which they tell the fortunes of their companions, as to whether they shall live in a "great house" or "a barn," &c. Its flowers stand in rows alternately on each side, the stalk is about a foot high and stiff. It is a valuable plant to the farmer, on account of the leaves, but cattle reject the flower as being too wiry.

TETRANDRIA. MONOGYNIA.

COROLLIFLORÆ. GALIACEÆ.

GALIUM. (BED-STRAW.)

Generic Character. See page 127.

GALIUM SAXATILE. *Smooth Heath Bed-straw.* Heathy places, and hilly pastures are often white with this little plant during the summer months. The flowers are small, but purely white. Leaves six in a whorl. Stem very much branched and prostrate. Fruit smooth. This plant turns almost black in drying.

GALIUM MOLLUGO. *Great Hedge Bed-straw.* This species flowers towards the end of the month, and is seen in hedges with its long straggling stems, and loose panicle of white flowers. Leaves eight in a whorl, rough at the margin with prickles pointing forward. Fruit smooth.

GALIUM APARINE. *Goose-grass,* or *Cleavers.* This species and another, *C. boreale,* are the only two that have rough fruit, the name in English is derived from the circumstance of its clinging to everything that it touches, the bristles by which it is covered being hooked; by this means the plant is easily scattered, as the seeds are carried far and wide in the hair of animals, and by other means. It has six or eight leaves in a whorl, narrow in shape, and armed with bristles as much as the fruit. Flowers white, few together. The plant grows amongst bushes, its stems being very weak and requiring support. It is abundant in hedges.

TETRANDRIA. MONOGYNIA.
COROLLIFLORÆ. GALIACEÆ.

RUBIA. (MADDER.)

Generic Character. This genus seems to differ from *Galium*, in the *corolla* being divided into three or five, instead of four. The *fruit* is a berry of two lobes.

RUBIA PEREGRINA. *Wild Madder.* The leaves of this plant are only four or six in a whorl, lanceolate, glossy, the edges and middle rib very rough with prickles, which turn backwards. Flowers white. The roots are used in dying red. Stony and sandy ground in the south-west of England produce the Wild Madder. Plentiful in the Isle of Wight.

TETRANDRIA. MONOGYNIA.

COROLLIFLORÆ. GALIACEÆ.

ASPERULA. (WOODRUFF.)

Generic Character. See page 128.

ASPERULA CYNANCHICA. *Squinancy Wort.* The sweet-scented Woodruff was found last month, and another species may now be added by those who reside in chalk districts. It is a pretty little flower, growing close to the ground amongst the grass, frequent on the chalky downs of Sussex, and elsewhere. Leaves four in a whorl, upper whorls with two opposite leaves only. Flowers generally lilac, and in a small bunch.

TETRANDRIA. MONOGYNIA.

COROLLIFLORÆ. GALIACEÆ.

SHERARDIA. (FIELD MADDER.)

Generic Character. *Corolla* funnel-shaped. *Fruit* having the *calyx* at the top or superior. *Leaves* in whorls.

SHERARDIA ARVENSIS. *Blue Sherardia,* or *Field Madder.* It will be seen that the genera *Galium, Rubia, Asperula,* and

Sherardia have their leaves in whorls, and that there is a general likeness in these little plants. The present species has about six in each whorl at the lower part of the stem, and at the upper part seven or eight forming an involucre to a little umbel of pale blue or lilac flowers. It is a small, delicate, spreading plant, and quite as pretty as either of the species of the genus *Asperula*.

TETRANDRIA. MONOGYNIA.
COROLLIFLORÆ. PLANTAGINACEÆ.

PLANTAGO. (PLANTAIN.)

Generic Character. *Corolla* of one petal divided into four at the top, the segments turned back.

This genus, of which the well known Plantain for singing birds is a species, is not attractive in appearance.

PLANTAGO MAJOR. *Greater Plantain.* The leaves of this species are very broad, growing from the root, and mostly on long foot stalks, while those of

PLANTAGO LANCEOLATA, *Ribwort Plantain,* are lanceolate, that is, long and narrow. They have both a long spike of flowers, and are equally common in pastures and wood-sides.

Plantago media. *Hoary Plantain*, is, perhaps, less common. It has a shorter spike of flowers, and the leaves ovate, with scarcely any footstalks.

Plantago Coronopus. *Buck's-horn Plantain.* This is much smaller than the three former, and easily distinguished from them. It has narrow leaves very much pinnatifid or divided. Spike round and hairy. It is found generally on sterile soils. There is another species almost peculiar to the sea-side, and called

Plantago maritima. *Sea-side Plantain.* Its leaves are long, fleshy and woolly at the base, the spike round.

Tetrandria. Monogynia.

Corollifloræ. Cornaceæ.

CORNUS. (Cornel.)

Generic Character. *Calyx* with four teeth. *Corolla* of four petals and superior, that is, above the seed-vessel. *Nut* having two cells and two sides.

Cornus sanguinea. *Wild Cornel*, or *Dog-wood.* A shrub of five or six feet high, with straight branches, the bark in the older branches dark red, and the leaves, also, before they fall. They are entire, slightly hairy beneath, and strongly nerved, opposite to each other on the stalk. Umbel of white flowers at the ends of the branches. Woods and thickets in chalk and limestone soils, produce this plant.

TETRANDRIA. MONOGYNIA.
COROLLIFLORÆ. CORNACEÆ.

PARIETARIA. (WALL PELLITORY.)

Generic Character. The *calyx* and *corolla* divided into four. Filaments of the *stamens*, at first incurved or bent, then expanding with elastic force. *Fruit* with one seed, enclosed by the flower, which enlarges.

PARIETARIA OFFICINALIS. *Common Pellitory of the Wall.* A common plant on old walls and in waste places, flowering through the summer. It is not a conspicuous plant, the flowers being small, hairy, purplish, clustered amongst the leaves. Stem procumbent, sticky, and of a reddish hue.

TETRANDRIA. MONOGYNIA.
MONOCHLAMYDEÆ. SANGUISORBEÆ.

ALCHEMILLA. (LADY'S MANTLE.)

Generic Character. *Calyx* eight-cleft: the four alternate and outer segments the smallest. *Fruit* one or two-seeded.

ALCHEMILLA ARVENSIS. *Field Lady's Mantle.* This pretty little plant is not very common everywhere. It is found on wall tops, fields, and gravelly soils. The leaves are large, alternate, divided into three lobes, and each deeply cut. Stipules (the small leaf-like appendages on the stalk) large. Stems branched, leafy, four or five inches long, frequently prostrate. Flowers small, green, and in bunches.

ALCHEMILLA VULGARIS. (Plate XII. Fig. 46.) *Common Lady's Mantle.* This is abundant in alpine pastures. A foot high. Leaves of the root large, and divided into from six to nine lobes on long foot stalks. Flower yellow-green, and in many loose, terminal clusters.

ALCHEMILLA ALPINA. *Alpine Lady's Mantle.* Found on mountains in the north of England, but more commonly in Scotland. It is distinguished from the others by the leaves being deeply divided, and white and silky beneath. It does not flower till July, and is a most elegant plant.

TETRANDRIA. TETRAGYNIA.

PETALOIDEA. NAIADACEÆ.

POTAMOGETON. (POND-WEED.)

Generic Character. *Flowers* without stalks upon a spike, which issues from a sheathing leaf. *Water plants.*

All the species of this genus grow in the water, and present a beautiful appearance, the leaves of some species being shiny, and floating on the surface. They are most useful in protecting the spawn of fish, and mollusca, and innumerable insects, and aquatic birds feed on the seeds and roots. There are fifteen species described by botanists, but we must be contented with a few of the most common.

POTAMOGETON DENSUS. *Opposite-leaved Pond-weed.* Frequent in ditches; the leaves all opposite, without stalks, rather long and narrow. Head of greenish flowers small and rounded.

POTAMOGETON CRISPUS. *Curled Pond-weed.* Leaves alternate on the stalk, long and narrow, waved and cut at the edges. Common in ditches and rivers; with the leaves under the surface.

POTAMOGETON RUFESCENS. *Reddish Pond-weed.* This species, found in ditches and ponds, has floating leaves, which are strong, stout, and on long stalks, those under the water are longer, and of a membranous substance. The whole plant is of a reddish olive colour, which, perhaps, best distinguishes it from other species.

POTAMOGETON NATANS. *Sharp-pointed, broad-leaved Pond-weed.* The lower leaves, or those under water, are narrow; the upper, or floating, have long foot-stalks, and many nerves, their shape differing very much, but they are generally broad and not pointed. The upper side of the leaf never seems to become wet, for if held under the water, or the rain be ever so heavy, still the surface remains perfectly dry. It is found in stagnant and slow streams.

PENTANDRIA. MONOGYNIA.
COROLLIFLORÆ. BORAGINACEÆ.

ECHIUM. (VIPER'S BUGLOSS.)

Generic Character. *Calyx and corolla* below the seed-vessel. *Corolla* of one petal, its throat swollen. *Stigma* divided into four lobes.

ECHIUM VULGARE. *Common Viper's Bugloss.* This plant derives its name from its supposed virtues in curing the bite of vipers, but it is now considered useless in this respect.

Our ancestors were very apt to imagine that any resemblance to an animal in a plant, denoted that it was efficacious against its poison, or bite; thus, because this plant has a spotted stem like a snake, they thought it would heal the bite of a viper. Notwithstanding its inutility in this respect, it is a beautiful plant, and often converts a waste place into a gay garden. Its beautiful corolla at first reddish purple, and afterwards brilliant blue, renders it one of our prettiest wild flowers. The spike of numerous flowers is rolled up in a similar manner to those of the *Myosotis*. The stem is stout and rises two or three feet high, and is, as well as the narrow leaves, so rough with prickles, that even the donkey refuses to eat it. Sandy and gravelly soils are peculiarly congenial to this plant, and it is said to make its appearance more plentifully every third year. There is another species found in Jersey with violet-coloured flowers, and less rough than the last, called *E. violaceum*.

PENTANDRIA. MONOGYNIA.

COROLLIFLORÆ. BORAGINACEÆ.

LITHOSPERMUM. (GROMWELL.)

Generic Character. *Calyx* in five deep segments. *Corolla* funnel-shaped. Seeds almost as hard as a stone.

LITHOSPERMUM OFFICINALE. *Common Gromwell, Grey Millet.* These plants derive their name from two Greek words signifying a stone-seed, from its very hard stone-like nut. This is a common species on dry, waste places, and among rubbish. It grows about a foot high, or more, with a branched stem, leaves broadish, rough above, and hairy beneath. Flowers yellow, and pale. Nuts whitish-brown, smooth and very much polished, as hard as a stone, and it is said that a twentieth part of the whole seed is pure flint, which accounts for the hardness. Another species not uncommon,

LITHOSPERMUM AVENSE. *Corn Gromwell,* is found in cornfields; the flower is white, and the nuts wrinkled. Two other species are rare.

PENTANDRIA. MONOGYNIA.
COROLLIFLORÆ. BORAGINACEÆ.

BORAGO. (BORAGE.)

Generic Character. *Calyx* five-cleft. *Corolla* wheel-shaped, having the mouth closed with five obtuse teeth.

BORAGO OFFICINALIS. *Common Borage.* The flower of this plant is most beautiful, its brilliant blue corolla being quite an ornament. It is large, bright blue, and with very prominent purplish black stamens. It is pendant, and the buds pink. Leaves very rough, as is also the whole plant. Upper leaves having no stalks; lower, narrow at the base, and eared. It is here naturalized, but thought to be originally brought from the Levant, where the flowers are larger, and still more beautiful. This plant was formerly used as an ingredient in a cooling liquor called "Cool Tankard," made of cider, lemon, and water. Its rough leaves, also, were eaten as a salad when young. Gerarde, the old herbalist, says, "an extract from it drives away sorrow, and increaseth the joy of the mind."

PENTANDRIA. MONOGYNIA.

COROLLIFLORÆ. BORAGINACEÆ.

LYCOPSIS. (BUGLOSS.)

Generic Character. *Calyx* five-cleft. *Corolla* funnel-shaped, with a curved tube, the mouth closed by scales.

LYCOPSIS ARVENSIS. *Small Bugloss.* This is also a very bristly plant, the hairs or bristles have a white tubercle at the bottom. Lower leaves having a stalk; upper ones not any, and slightly clasping the stem. Many leaves clustered about the flowers, which are small and blue. It is frequent in cornfields.

PENTANDRIA. MONOGYNIA.
COROLLIFLORÆ. BORAGINACEÆ.

CYNOGLOSSUM. HOUND'S-TONGUE.

Generic Character. *Calyx* five-cleft. *Corolla* short, funnel-shaped, its mouth closed with scales.

CYNOGLOSSUM OFFICINALE. *Common Hound's-tongue.* This is a common plant on road-sides and waste ground, and easily known by its dark chocolate-coloured flowers, and large soft-looking leaves. It has also a disagreeable smell. The leaves at the upper part have no stalks, and are soft and downy. Lower leaves on long foot-stalks. The whole plant smooth to the touch, and dull green. Fruit very rough. The large seeds are covered with spikes, so that they adhere to everything passing by at the time they are ripe, and thus are wonderfully distributed. Another species, found in the middle and eastern counties of England, but rarely, has more shining leaves, which are also of a brighter colour. It is called *C. sylvaticum*, Green-leaved Hound's-tongue.

PENTANDRIA. MONOGYNIA.
CALYCIFLORÆ. BORAGINACEÆ.

ANAGALLIS. (PIMPERNEL.)

Generic Character. *Calyx* divided into five. *Corolla* wheel-shaped. *Stamens* hairy. *Seed-vessel* round, with many seeds.

ANAGALLIS ARVENSIS. *Scarlet Pimpernel.* This flower, under the name of Poor Man's Weather-glass, is well known, and its pretty bright red flowers may be found in corn-fields, shrubberies, &c., from this time for several months. The flower is occasionally found blue, and sometimes white, but these are only varieties, not new species. The leaves are ovate, without stalks, and curiously dotted beneath. It derives its name of Poor Man's Weather-glass, or Shepherd's Barometer, on account of the corolla closing before rain. It, however, always closes soon after mid-day, though the sun may be still shining.

ANAGALLIS TENELLA. *Bog Pimpernel.* A beautiful little plant not flowering so early as the last, but in perfection in July and August. It grows on wet mossy bogs, with fine creeping stems, and small roundish leaves. Flowers pink or rose-coloured, striped with a darker shade, of an elegant form, and on long foot-stalks.

PENTANDRIA. MONOGYNIA.
COROLLIFLORÆ. PRIMULACEÆ.

HOTTONIA. (WATER-VIOLET.)

Generic Character. *Calyx* divided into five. *Corolla* salver-shaped, with a short tube. *Stamens* inserted at the mouth of the tube.

HOTTONIA PALUSTRIS. *Water-violet*, or *Feather-foil*. An aquatic plant, the large handsome pale-purple, or white flowers rising above the surface. The leaves are very much divided, like a bunch of green threads, and all under water, the root being fixed at the bottom of the stream. It is not common, and in many places very rarely seen; never in Scotland.

PENTANDRIA. MONOGYNIA.
COROLLIFLORÆ. GENTIANACEÆ.

MENYANTHES. (BUCKBEAN.)

Generic Character. *Calyx* divided into five. *Corolla* funnel-shaped, the segments hairy within.

MENYANTHES TRIFOLIATA. *Common Buckbean, Marsh Trefoil.* Not an aquatic plant like the last, but delighting in marshy ground, and the sides of rivers. Its roots are densely creeping, and matted, so as often to render the boggy ground firm where the plant grows. Easily known by its leaf, which is divided into three, like the Trefoil, or the garden Bean. The flowers are handsome, growing in a bunch, white, beautifully tipped with red, and fringed with white filaments within. The Highlanders use it as tea, to strengthen weak digestion, and it is sometimes used as a substitute for hops.

PENTANDRIA. MONOGYNIA.
COROLLIFLORÆ. CONVOLVULACEÆ.

CONVOLVULUS. (BINDWEED.)

Generic Character. *Calyx* five-cleft. *Corolla* bell-shaped, lying open and flat at the upper part. *Seed-vessel* of two or three cells, each having one or two seeds.

There are three species, two flowering now, one later; but we will mention them together. They derive their names from their habit of entwining amongst other plants.

CONVOLVULUS ARVENSIS. *Small Bindweed.* A well known and pretty trailing plant, found on banks, road-sides, and in corn-fields, in light soil. Leaves arrow-shaped. Flowers rather small, pink, and striped with rose-colour. It is frequently found climbing up the wheat-stalk, and hanging its pretty blossoms in profusion.

CONVOLVULUS SOLDANELLA. *Sea-side Bindweed.* Frequent in sandy places by the sea. Flowers few, but large and rose-coloured. Stem prostrate; leaves kidney-shaped and fleshy.

CONVOLVULUS SEPIUM. *Great Bindweed.* An elegant plant. Its large pure white blossom being very conspicuous in the hedges in July. It is as large as the Major Convolvulus of our gardens, but without the colour.

PENTANDRIA. MONOGYNIA.

COROLLIFLORÆ. CAPRIFOLIACEÆ.

LONICERA. (HONEYSUCKLE.)

Generic Character. *Calyx* five-toothed, and falling off. *Corolla* irregular, funnel-shaped, the upper part being two-lipped.

This common plant needs no description. It is found in woods and hedges, beginning to flower in June, and lasting till October. Its botanical name is LONICERA PERICLYMENUM. There are two other species, one found in Oxfordshire and Cambridgeshire, and the other in the north; both rare.

PENTANDRIA. DIGYNIA.

COROLLIFLORÆ. GENTIANACEÆ.

GENTIANA. (GENTIAN.)

Generic Character. *Calyx* divided into four or five. *Corolla* rather bell-shaped, tubular at the base.

GENTIANA AMARELLA. *Autumnal Gentian.* May be found in hilly counties, from April to a late period in the autumn, particularly in limestone soils. It is from three inches to a foot high, branching from the base, and covered with flowers of a rather dingy purple. Leaves ovate and narrow. Corolla five-cleft, and the segments of the calyx nearly equal.

GENTIANA CAMPESTRIS. *Field Gentian.* Greatly resembling the last, but with larger flowers, the corolla divided into four, and the two outer segments of the calyx very large. It is frequent on hilly pastures in limestone or chalky soil. It does not flower till late, and has a better title to that of *Autumnalis* than the one above. There are many beautiful species of this genus flowering in August and September.

PENTANDRIA. DIGYNIA.

CALYCIFLORÆ. APIACEÆ.

SCANDIX. (SHEPHERD'S NEEDLE.)

Generic Character. No *calyx*. *Flowers* small and white. *Seed-vessel* very long and narrow.

SCANDIX PECTEN-VENERIS. (Plate XII. Fig. 47.) *Needle Chervil, Venus' Comb, Shepherd's Needle.* This is an umbelliferous plant, with the fruit of a very singular appearance when full grown. The plant is small, and the flower quite minute, and yet the seed-vessel grows to the length of two inches, and seven or eight of these needle-like pods project from one point. The leaves are divided, and sub-divided till they are like a piece of fine sea-weed, so that altogether this is an interesting little plant. It is abundant in corn-fields, and is well worthy of a search.

PENTANDRIA. DIGYNIA.
CALYCIFLORÆ. APIACEÆ.

CONIUM. (HEMLOCK.)

Generic Character. No *calyx*. *Fruit* compressed at the sides, ovate. *Universal involucre*, (little leaves under the umbels,) of few leaves; *partial* of three leaves on one side.

CONIUM MACULATUM. *Common Hemlock*. This is a very poisonous plant, and is best distinguished from other umbelliferous plants by its spotted stem, bad smell, one-sided involucres, and the waved ridges of the fruit. The leaves are large, much divided, when bruised giving out a disagreeable odour. It grows from two to four feet high, in waste places, banks, and under walls.

PENTANDRIA. TRIGYNIA.

COROLLIFLORÆ. CAPRIFOLIACEÆ.

VIBURNUM. (GUELDER ROSE.)

Generic Character. *Calyx* five-cleft. *Corolla* of one petal, five-lobed. *Berry* below the flower. *Leaves* simple.

VIBURNUM LANTANA. *Mealy Guelder Rose,* or *Wayfaring Tree.* A large shrub, much branched, with the young shoots very downy. Leaves large, finely cut at the edges, veined, and downy beneath. Flowers in thick bunches, white. Berries red at first, then purplish-black. It likes a chalky or limestone soil, and is often found in hedges, where its flowers are conspicuous. It has been called the Wild Hydrangea, from its general resemblance to that garden plant. In Kent it is called the Cotton Tree.

VIBURNUM OPULUS. *Common Guelder Rose.* This differs from the last in the shape of the leaves, which are three-lobed, and not downy. The flowers also distinguish it. The bunch is composed of fewer blossoms, those in the centre small, and those which are outermost, consisting of a large, flat, five-lobed petal, without either stamen or pistil. Flowers erect, berry drooping, the colour reddish-purple. It is a small tree, and not unfrequent in woods and coppices.

Pentandria. Trigynia.

Corollifloræ. Caprifoliaceæ.

SAMBUCUS. (Elder.)

Generic Character. *Calyx* five-cleft. *Corolla* of one petal, wheel-shaped, and five-lobed. *Berry* below the flower. *Leaves* divided, or pinnate.

Sambucus niger. *Common Elder.* This common tree is used medicinally, and also for making wine. The leaves are divided into fine leaflets, each being neatly cut at the edges. Bunches of flowers cream-coloured, with small yellow anthers formed of five principal branches. Berries purple-black.

Sambucus Ebulus. *Dwarf Elder.* This species is not uncommon in England. The bunches of flowers have only three principal branches; flowers purplish, anthers large and purplish. Leaves divided, leaflets much longer than in *niger*. Berry black. Stem two or three feet high, and much furrowed.

Hexandria. Monogynia.

Petaloideæ. Liliaceæ.

ALLIUM. (Onion.)

Generic Character. *Flowers* below the fruit, and consisting of six ovate spreading pieces: umbellate, with a spathe or sheath of two leaves.

ALLIUM URSINUM. *Broad-leaved Garlic.* This plant may soon be discovered by its strong scent, which is particularly disagreeable when gathered. I have seen it in large beds covering the rocks above a little stream, the whole air filled with the smell, and the water of the rapidly running stream tasting strong of garlic. The leaves are large and long, on foot-stalks, and all proceeding from the root. The umbel of white flowers is very pretty. The root is formed of long fibres from a small bulb, and is very difficult to eradicate when once possession is taken. Moist shady woods are its favourite situations, and its pretty star-like white flowers enliven such places. In the south it appears in flower in May, later in the north.

HEXANDRIA. TRIGYNIA.

MONOCHLAMYDEÆ. POLYGONACEÆ.

RUMEX. (DOCK and SORREL.)

Generic Character. See page 139.

RUMEX ACETOSA. *Common Sorrel.* This plant is very acid, and is the true Sorrel. It is frequent in meadows and pastures, one or two feet high, leaves oblong, and arrow-shaped. The flower is similar to the last species, but larger, and the enlarged petal (for there is one much larger than the rest in all the species) is heart-shaped, purplish, obtuse, and veined. The acidity is less than in the pretty Wood Sorrel, *Oxalis Acetosella,* mentioned in April, but young people like the taste, and I believe the French use it in salads.

HEPTANDRIA. MONOGYNIA.
COROLLIFLORÆ. PRIMULACEÆ.

TRIENTALIS. (CHICKWEED WINTER GREEN.)

Generic Character. *Calyx* divided into seven. *Corolla* rotate, also in seven. *Fruit* fleshy, opening with five valves.

I will mention this plant on account of its singularity, in being the only one in the seventh class of the Linnean System, but it is rare, and only found in woods in the north of England, though abundant in Scotland.

TRIENTALIS EUROPÆA. *European Winter Green.* Its stems are about five or six inches high, with two or three small distant leaves, and at the top of the stalk from four to seven oblong, obtuse, terminal leaves, from the centre of which arise from one to four beautiful white flowers, small, and with about seven petals. The seeds have a covering like the finest white lace.

OCTANDRIA. TRIGYNIA.
MONOCHLAMYDEÆ. POLYGONACEÆ.

POLYGONUM. (PERSICARY.)

Generic Character. No *corolla.* *Calyx* inferior, that is, below the fruit, with five deep coloured segments. *Fruit* a one-seeded, compressed, and three-sided nut.

Some species growing in water or marshy places, others in drier situations.

POLYGONUM BISTORTA. (Plate XII. Fig. 48.) *Bistort,* or *Snakeweed.* A handsome species, growing in moist meadows in various parts of the kingdom. It is about a foot or more high. Upper leaves large, and clasping the stem; lower ones tapering into a foot-stalk. Stem simple, bearing one spike of flesh-coloured flowers, very close together. Seed three-sided. This species is not so common as others which are not in flower till next month, but the following is common, and differs from the rest in general appearance.

POLYGONUM AVICULARE. *Knot-grass.* Its flowers are pink, small, and nearly solitary, instead of forming a spike, and proceed from the bottom of the leaves, so that they are scattered amongst them in all parts of the stalk. Leaves rather long and narrow, seed three-sided. It is very common on road-sides, &c., and flowers from May to September.

ENNEANDRIA. HEXAGYNIA.
PETALOIDEA. BUTOMACEÆ.

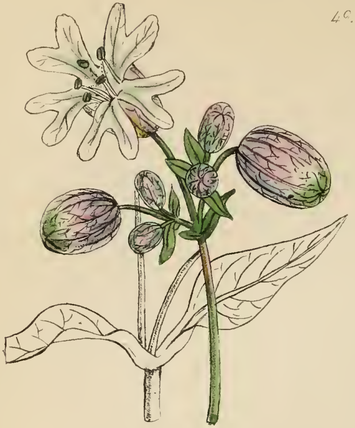
BUTOMUS. (FLOWERING RUSH.)

Generic Character. Divisions of the *calyx* three, like petals. *Petals* three. *Stamens* nine, three interior. *Capsules* six, connected below, and bursting upwards.

BUTOMUS UMBELLATUS. *Common Flowering Rush.* This is the only plant in the Linnæan class *Enneandria*. It is extremely handsome, and is often cultivated in lakes, being highly ornamental. The umbel of many rose-coloured flowers, and leaves two or three feet long, make it easily distinguished from other water plants.

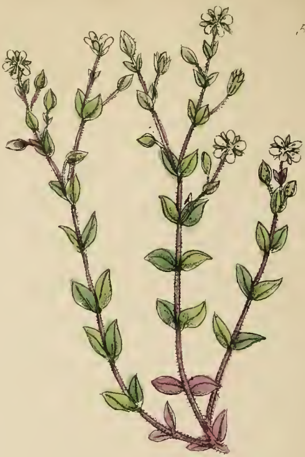
Plate 13.

49.



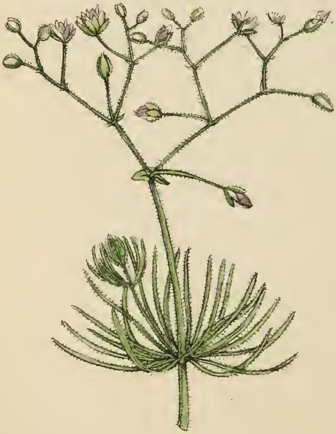
Silene inflata, *Smith.*

50



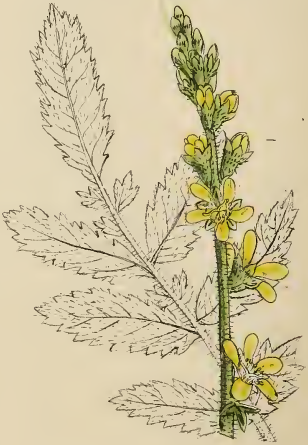
Arenaria Serpyllifolia,

51.



Spergula arvensis, *Linn.*

52.



Agrimonia Eupatoria, *Linn.*

Reeve lith et imp

DECANDRIA. TRIGYNIA.

THALAMIFLORÆ. CARYOPHYLLACEÆ.

SILENE. (CATCHFLY.)

Generic Character. *Calyx* of one piece, five-toothed, but tubular, and often inflated and swollen. *Petals* five, with a claw. *Stalks* in some species sticky.

There are eleven species, but some of them rare.

SILENE INFLATA. (Plate XIII. Fig. 49.) *Bladder Campion.* This species derives its name from the inflated appearance of the calyx, which is an exceedingly pretty object. Whole plant smooth, stem erect, leaves ovate and long. Flowers pure white, and numerous, petals deeply divided. The young shoots were formerly gathered as a vegetable, and have a strong smell of green peas. In the islands of the Mediterranean it is commonly brought to table, and in several instances, where famine threatened the inhabitants, they have been saved from starvation by this plant.

SILENE ANGLICA. *English Catchfly.* Found in sandy and gravelly fields, principally in the southern counties. Flowers solitary, generally proceeding from the leaf where it joins the stalks. Petals small, mostly white, sometimes with a faint tinge of red in the middle. Calyx rough with hairs.

DECANDRIA. TRIGYNIA.

THALAMIFLORÆ. CARYOPHYLLACEÆ.

ARENARIA. (SANDWORT.)

Generic Character. *Calyx* of five leaves. *Petals* five, undivided. *Seed-vessel* with one cell and many seeds.

These are small, insignificant plants growing on sandy soils.

ARENARIA SERPYLLIFOLIA. (Plate XIII. Fig. 49.) *Thyme-leaved Sandwort.* A small plant, found on walls and dry places. From two to six inches in length, erect, or procumbent, much branched. Leaves small, stiff, and not stalked. Flowers small, white, on short stalks, from the forkings of the upper part of stem, or the axil of the leaves.

ARENARIA TENUIFOLIA. *Fine-leaved Sandwort.* Stem much branched, generally divided into pairs. Leaves small, and narrow. Flower white, petals much shorter than the calyx; whole plant slender. It occurs in sandy fields and on walls.

ARENARIA RUBRA. *Purple Sandwort.* This and the next differ from the two former, by each pair of leaves being accompanied by a shining sheath, called a stipule. The stems are prostrate, very much branched and spreading. Flowers red, numerous amongst the upper leaves.

ARENARIA MARINA. *Sea-side spurry Sandwort.* Very like the last, but much larger, and stouter, and growing on the coast. There is a difference also in the seed, the former having a compressed, angular, and rough seed, and the present a smooth seed, with a membranous pellucid border.

DECANDRIA. PENTAGYNIA.

CALYCIFLORÆ. CRASSULACEÆ.

SEDUM. (STONECROP.)

Generic Character. *Calyx* in five deep segments, thick like the leaves. *Petals* five, spreading.

There are eleven species of this small plant, several doubtless known by most persons.

SEDUM ACRE. *Biting Stonecrop,* or *Wall Pepper.* This is the most common, and is met with on walls, rocks, and sandy ground. Its thick, fleshy, close-set leaves, and bright yellow flowers, make it easily known. Its leaves are biting, whence its name of pepper.

SEDUM REFLEXUM. *Crooked yellow Stonecrop.* Having a yellow blossom, as well as the last, but on stems six or eight inches high, and in a large head or cyme. Its flowers are found late in the month, on walls, roofs, and thatched buildings. These are the two most common of the Yellow-flowered Sedums.

SEDUM ALBUM. *White Stonecrop.* The flowers are white, tinged with red occasionally, and in a crowded bunch. Stems prostrate, but the flowers rising from three to five inches high. Leaves pale green, sometimes tinged with red. It is found on rocks, walls, and roofs of houses in some of the midland counties. Occasionally it is pickled like *Samphire.*

One common in the Highlands, where its white star-like flowers cover sandy and rocky places near the sea, is called *S. angelicum.* North Wales also produces it.

DECANDRIA. PENTAGYNIA.

THALAMIFLORÆ. CARYOPHYLLACEÆ.

SPERGULA. (SPURREY.)

Generic Character. *Calyx* five-cleft. *Petals* five, undivided. *Seed-vessel* with five seeds in each of the five cells.

SPERGULA ARVENSIS. *Corn Spurrey.* A small plant, common in corn-fields, on light sandy soil. Its stems are from six to twelve inches long, swollen at the joints. Leaves very long and narrow, and growing in whorls. Bunch of many flowers, petals white, rather longer than the calyx. It is a weak plant, and reclines much on the ground.

SPERGULA NODOSA. *Knotted Spurrey.* A curious little plant, not above three or four inches high, with minute leaves on the stem, but much longer at the root, and quite narrow. Flowers rather large for so small a plant, white and proceeding from the end of the stalk. Wet and sandy places produce it.

DODECANDRIA. DIGYNIA.
CALYCIFLORÆ. ROSACEÆ.

AGRIMONIA. (AGRIMONY.)

Generic Character. *Calyx* swollen, covered with hooked bristles, five cleft, and below the fruit. *Petals* five, fastened upon the calyx. *Stamens* from seven to twenty.

AGRIMONIA EUPATORIA. (Plate XIII. Fig. 52.) *Common*

Agrimony. This is the only plant found in flower during this month in the eleventh class. It is very pretty, and common on the borders of fields, waste places and road-sides. The leaves are very handsome, being large and deeply cut at the edge, and divided even down to the main stalk, and the intermediate space filled up with little leaflets. Flowers yellow, on a long simple spike, with a little leaf at the base of each flower. The stamens vary much in number. Fruit very much beset with bristles, and clinging to anything which passes, such as an animal's wool; so that by this means the seeds become much dispersed.

ICOSANDRIA. POLYGYNIA.

CALYCIFLORÆ. ROSACEÆ.

ROSA. (ROSE.)

Generic Character. *Calyx* urn-shaped, and divided into five segments. *Petals* five.

There are nineteen species of Roses, most of them difficult to distinguish from each other, but I will mention the most common.

ROSA SPINOSISSIMA. *Burnet-leaved Rose*. This species has a small cream-coloured flower, sometimes tinged with red on the outside of the petals. They are numerous and solitary. Prickles, very many on every part of the plant. The leaf usually consists of seven leaflets, but they are found varying from five to eleven. Fruit round, and a deep red at first, afterwards black.

ROSA CANINA. *Common Dog-rose.* This is very common in thickets, and hedges, and varies very much according to the soil. Its petals are light pink, and the flower has a slight scent. Fruit scarlet, known by the common name of "hips". In old times these were used as a conserve, or in tarts, but now, I think, they are almost universally abandoned to the birds, which find them a pleasant food in hard winters, and indeed, at all seasons.

ROSA RUBIGINOSA. *True Sweet-briar.* This is chiefly found in the south of England, in Sussex, common. The flower is well known by its deep pink petals, but the sweet scent betrays the plant more readily. The fruit at first is yellow, then orange-red or scarlet, and in taste very different to the true hip.

ROSA ARVENSIS. *Trailing Dog-rose.* Common in the south. A small shrub, but having long trailing branches. Many prickles, and large bunches of white flowers, the petals of which are large and open, quite flat, with a slight fragrance at first, but soon becoming disagreeable. Fruit small, blood-red when ripe, with an orange-red pulp of a peculiar flavour.

ICOSANDRIA. POLYGYNIA.

CALYCIFLORÆ. ROSACEÆ.

RUBUS. (BRAMBLE.)

Generic Character. *Calyx* five-cleft. *Petals* five. *Fruit* superior, or above the flower, consisting of several single-seeded juicy parts.

RUBUS FRUTICOSUS. *Common Bramble* or *Blackberry.* Extremely common in thickets and hedges in most places, its fruit is so well known that I need not describe the plant.

RUBUS IDÆUS. *Raspberry.* Common in woods in the north, where the fruit is often gathered in quantities. The leaves are divided into three or five leaflets, very downy, and white beneath. Stem nearly erect, downy and prickly, flowers drooping, petals as short as the calyx.

There are thirteen species, but these two are common.

ICOSANDRIA. POLYGYNIA.

CALYCIFLORÆ. ROSACEÆ.

POTENTILLA. (CINQUEFOIL.)

Generic Character. See page 55.

POTENTILLA ANSERINA. *Silverweed.* A beautiful species of *Potentilla,* very common by road-sides and moist pastures, and called Silverweed, from the white silky down, on the under side of the leaf. The leaves are large, divided into many deeply cut leaflets, lying close to the stalk. They are silky above, but never so much so as on the under side. Flowers large, yellow, and very pretty, lying close to the ground.

POTENTILLA ARGENTEA. *Hoary Cinquefoil.* A gravelly soil produces this very beautiful species. Its leaves are divided into five parts, each deeply cut at the edge, and perfectly white underneath, with a silky down, the upper part being a dark green, a great contrast to the silvery side. Flowers much smaller than the last, yellow, and terminal, that is, at the end of the trailing branch.

POTENTILLA REPTANS. *Common Creeping Cinquefoil.* Common everywhere. Stem very creeping, fine, and taking root frequently. Leaves divided into five like the last, but not white beneath. One pretty yellow blossom on a long stalk, proceeds from almost every leaf. This common species may be gathered on road-sides from June to September.

ICOSANDRIA. POLYGYNIA.

CALYCIFLORÆ. ROSACEÆ.

GEUM. (AVENS.)

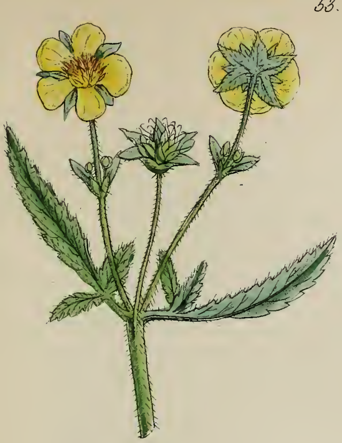
Generic Character. *Calyx* ten-cleft, alternate segments minute. *Petals* five. *Seed-vessels* with long awns.

GEUM URBANUM. (Plate XIV. Fig. 53.) *Common Avens, Herb Bennet.* Frequent in hedges and woods. Stem about two feet high. Root leaves large, divided, and on long foot-stalks. Upper leaves divided into three. Flowers very small, petals yellow, and spreading. Fruit with long awns.

GEUM RIVALE. *Water Avens.* Less common than the last, and much more beautiful. This elegant plant is found in marshes, and wet moory ground. It is a shorter but stouter plant than the last, with leaves somewhat similar. Flowers large, and drooping. Calyx purplish, with dull, purple, orange-coloured petals, of singular shape. Awn of the fruit very feathery.

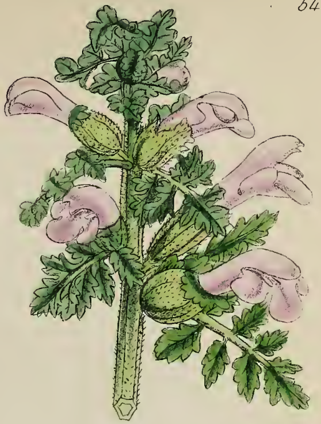
Plate 14.

53.



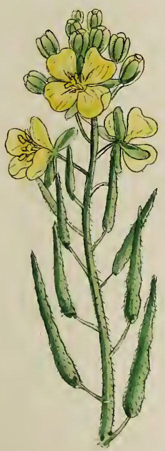
Geum urbanum, *Linn.*

54.



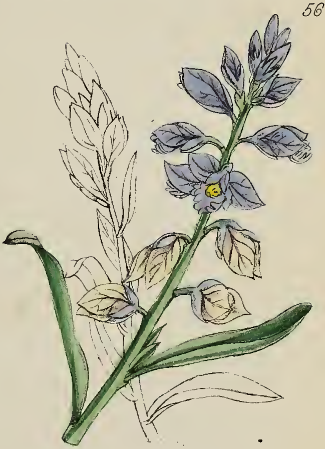
Pedicularis palustris, *Linn*

55.



Sinapis arvensis, *Linn.*

56.



Polygala vulgaris, *Linn.*

Reeve, lith. et imp.

POLYANDRIA. POLYGYNIA.

THALAMIFLORÆ. RANUNCULACEÆ.

RANUNCULUS. (CROWFOOT.)

Generic Character. See page 56.

RANUNCULUS SCELERATUS. *Celery-leaved Crowfoot.* Growing on the sides of pools and ditches. Stem stout and succulent, one to two feet high. Lower leaves very broad and glossy, stalked and three-lobed. Upper divided into three narrower segments. Flowers extremely small, pale yellow.

RANUNCULUS REPENS. *Creeping Crowfoot.* Too frequent in pastures, as it is useless to the farmer. It is a creeping, spreading plant, leaves divided into three lobes, which are again sub-divided into three. Flowers yellow.

DIDYNAMIA. ANGIOSPERMÍA.

COROLLIFLORÆ. SCROPHULARIACEÆ.

RHINANTHUS. (YELLOW RATTLE.)

Generic Character. *Calyx* inflated. Upper lip of the *corolla* compressed laterally, lower one three-lobed.

RHINANTHUS CRISTA GALLI. *Common Yellow Rattle.* A handsome plant, very frequent in fields. One or two feet high, showing its yellow flower amongst the ripening grass. Leaves long, narrow, and cut at the edges. Flowers in loose spikes, yellow, with a bractea or leaf under each. The bractea differs in shape from the true leaf, being broad instead of narrow. When the fruit is ripe, the seeds rattle in the large dry seed-vessel, whence the English name. In Sweden, when the peasant observes this, he knows it is time to cut the grass, but in England the grass is generally ripe first. It is not a plant universally found over the country, but too plentiful in some places, as the farmer dislikes it, and it yields so many seeds that it is not easily eradicated. There is another species, but it seems to differ only in size.

DIDYNAMIA. ANGIOSPERMIA.

COROLLIFLORÆ. SCROPHULARIACEÆ.

PEDICULARIS. (LOUSEWORT, OR RED RATTLE.)

Generic Character. *Calyx* inflated, five-cleft, generally jagged and leafy. Upper lip of the *corolla* arched, lower one three-lobed.

Two species of this pretty plant may now be found on marshy heaths. It derives its name of Lousewort from its supposed quality of producing some disease in sheep, but which rather arises from the wet pasture where it grows.

PEDICULARIS PALUSTRIS. (Plate XIV. Fig. 54.) *Marsh Red Rattle.* Stem about a foot high, often very purple, branched towards the top. Leaves beautifully divided into many fine parts. Flowers large, handsome, deep rose-colour. Calyx broad, hairy, and ribbed.

PEDICULARIS SYLVATICA. *Pasture, Dwarf Red Rattle.* Stem branched from the base, and from three to five inches long. Leaves divided. Flowers large, handsome, and pale rose-colour. Calyx oblong, angular, and smooth, with five unequal and leafy segments.

DIDYNAMIA. ANGIOSPERMIA.
COROLLIFLORÆ. SCROPHULARIACEÆ.

DIGITALIS. (FOXGLOVE.)

Generic Character. *Calyx* in five deep unequal segments. *Corolla* bell-shaped, inflated underneath, mouth with four or five unequal lobes.

Digitalis purpurea. *Purple Foxglove.* Perhaps the most stately and beautiful of our wild plants, bearing comparison with many of the most cherished productions of the garden. The large lower leaves, and stalk of three or four feet high, bearing the long spike of numerous, drooping, purple-spotted flowers, make it very striking on our dry banks, but it is scarcely known in Norfolk and Suffolk, seeming to love rocky and hilly counties. The flower is well worthy of examination on many accounts. The freckled and spotted bell is elegantly shaped, and the stamina, two long, and two short, are curiously formed and placed, so as to touch the pistil. The flower is sometimes white.

Doigts de la vierge. Gants de Notre Dame, are the French familiar terms for this well known plant, for which we are contented with a less high-sounding name.

Didynamia. Angiospermia.
Corollifloræ. Scrophulariaceæ.

OROBANCHE. (Broom Rape.)

Generic Character. *Calyx* of two segments. *Corolla* gaping, four or five-cleft. Leafless, brown, or purplish, scaly plants, often growing on the roots of other herbs.

These are singular looking plants, and rather resemble in general colour and appearance the *Listera nidus avis*. Two species are now in bloom.

OROBANCHE MAJOR. *Greater Broom Rape.* Growing on the roots of Broom and Furze very frequently. It is from one to two feet high, leafless, and the whole plant purplish-brown. Flowers in a long spike, with the corolla tubular, the upper lip undivided, lower one in three nearly equal segments. Stem swelling at the base, and very scaly.

OROBANCHE MINOR. *Lesser Broom Rape.* This is smaller than the other, and more slender. It is found on clover roots, very abundantly in Norfolk, Kent, and Surrey. Corolla with the lower lip divided into curled segments, the upper unequally notched.

TETRADYNAMIA. SILIQUOSA.
THALAMIFLORÆ. CRUCIFERÆ.

SINAPIS. (MUSTARD.)

Generic Character. *Calyx* spreading, that is, the parts not joined together, but standing apart. *Pod* two-valved, and ribbed, very slender. *Seeds* in one row.

Sinapis arvensis. (Plate XIV. Fig. 55.) *Wild Mustard,* or *Charlock.* This is one of the species of Mustard, though not the one used as such for the table, but they all have the same pungent quality. It grows from one to two feet high, has large, rough leaves, and yellow flowers, also rather large; pod with many angles, and showing the form of the seeds it contains. It is troublesome to the farmer, springing up in his fields in great quantities. In Sussex, when a field is left uncultivated for a short time, it is sure to be covered with Charlock. This is particularly the case with those situated on the chalky downs.

Sinapis alba. *White Mustard.* This is the plant which in a young state is eaten as Mustard with Cress. It is very similar to the last, but has a long sword-shaped beak at the top of the pod, and does not flower so early.

Sinapis nigra. *Common Mustard.* The seeds of this plant form the Mustard for the table, and in some counties it is cultivated on purpose, especially in Durham. It is found also in waste places, and under hedges, growing to nearly four feet high. Lower leaves large and rough, upper long and narrow. Flowers yellow, pods flat, and with a very short beak.

TETRADYNAMIA. SILIQUOSA.

THALAMIFLORÆ. CRUCIFERÆ.

RAPHANUS. (RADISH.)

Generic Character. *Calyx* with two pouches at the base. *Pod* without valves.

RAPHANUS RAPHANISTRUM. *Wild Radish.* Leaves divided at the lower part, the upper lobe being the largest, stalked and rough. Flowers yellow, and veined. Pods of one cell, jointed and striated. It is frequently met with in corn-fields.

MONADELPHIA. DECANDRIA.

THALAMIFLORÆ. GERANIACEÆ.

GERANIUM (CRANE'S-BILL.)

Generic Character. See page 107.

GERANIUM PRATENSE. *Blue Meadow Crane's-bill.* We may now, I think, find all the rest of this beautiful genus which are not too rare for the young botanist, and the *pratense* is one of the prettiest. Its large purple flowers make it very conspicuous, being as fine as many of our cultivated species. The leaves are large, also divided into five parts, and these very much cut and jagged. The blossoms are very numerous, two united together on one main stalk. It is not so common a species as many others, but is found in pastures and moist thickets, particularly near cascades in hilly countries.

Geranium lucidum. *Shining Crane's-bill.* Frequent on rocks, walls, and roofs of houses, particularly in mountainous counties. Stem spreading, shining, brittle, swelling at the joints. Leaves roundish, five-lobed, and notched, shining, lower ones often of a fine red. Flowers small, rose-coloured, two growing together.

Geranium pusillum. *Small-flowered Crane's-bill.* The flowers are very small, and purplish. Stem weak and prostrate. Leaves deeply divided into five or seven parts, these again having three lobes. It is frequently found from June to September, on waste ground in gravelly soil.

Geranium columbinum. *Long Stalked Crane's-bill.* This is perhaps the most elegant of the tribe, from its being so slender in all its parts, and is not very common, except on a dry gravelly, or limestone soil. Leaves divided into five parts, which are so subdivided and narrow, that the leaf almost looks like a skeleton. The stem is very slender, and therefore recumbent. The flowers a light purple, small, and on very long foot-stalks, two together. I have described eight species of this genus, there are still five more found in England, but as they are rare, I will not puzzle the young student with them.

MONADELPHIA. POLYANDRIA.

THALAMIFLORÆ. MALVACEÆ.

MALVA. (MALLOW.)

Generic Character. *Calyx* double, the exterior part, of three leaves. *Seed-vessels* arranged in a circle, each having one seed.

MALVA SYLVESTRIS. *Common Mallow.* This is the largest of the two common species. It has an erect, herbaceous stem, from two to three feet or more high, branched. Leaves with seven rather acute lobes. Flowers purplish rose-colour, with deeper veins, three or four together. Its seeds growing in a little compact circle, are called by children cheeses, and in France "*les petits fromageons.*"

MALVA ROTUNDIFOLIA. *Dwarf Mallow.* Stems not above ten or twelve inches long, branching only from the roots, and prostrate. Leaves round, five-lobed. Flowers small, roundish, and of a pale lilac colour. It does not blossom so early as the last. They are both found by way-sides, and waste places.

DIADELPHIA. OCTANDRIA.

THALAMIFLORÆ. POLYGALACEÆ.

POLYGALA. (MILKWORT.)

Generic Character. *Calyx* of five leaves, two of them shaped like wings, coloured, and almost covering the rest of the flower. *Petals* three to five, adhering to the tube of the stamens. *Seeds* downy.

POLYGALA VULGARIS. (Plate XIV. Fig. 56.) *Common Milkwort.* A beautiful little plant, and the only one of its genus. It abounds on most chalky, hilly pastures, and heaths. The stems are from four to eight inches long. Leaves linear or long, though a variety is sometimes found with short, broad leaves. Flowers growing in a spike. Corolla and calyx blue, pink, purple, or white, the wing of the calyx as long as the corolla, and beautifully veined with green. The permanent calyx turns completely green at last, and wraps up the young pod, closing and drooping to protect it from rain.

It is altogether an elegant little plant, and ornaments the barren Heath, mixed with the *Pedicularis*, before the Heath flower makes its appearance.

DIADELPHIA. DECANDRIA.

CALYCIFLORÆ. FABACEÆ.

CYTISUS. (BROOM.)

Generic Character. *Calyx* two-lipped. Standard of the flower, or large upright petal, large and broad. *Keel* enclosing the stamens. *Seed-vessel* flattened, many-seeded.

CYTISUS SCOPARIUS. *Common Broom*. A well known shrub in dry, hilly, bushy places. Its large, handsome, yellow flowers make it very conspicuous in such situations. When it flowers in profusion, the farmer always has hopes of a good harvest, for it is generally observed that when Broom flowers very freely, there is also promise of a plentiful crop. It is a great favourite with the bees. By some botanists it is called *Genista scoparia*, and is said to have given rise to the royal name Plantagenet, from a sprig of the *Planta-genista* being worn in the helmet of one of the ancestors of the family.

DIADELPHIA. DECANDRIA.

CALYCIFLORÆ. FABACEÆ.

ONONIS. (REST HARROW.)

Generic Character. *Calyx* five-cleft, the segments long and narrow. *Standard* large, and striped. *Pod* swollen, few seeds.

ONONIS ARVENSIS. *Common Rest Harrow.* A pretty papilionacious plant with pink blossoms, at times white. It is a very variable plant, sometimes growing erect, at others procumbent; sometimes with long sharp spines, and at others with scarcely any. I believe these varieties depend on the soil being more or less cultivated, the spiny kind growing in the wildest places. The leaves are divided into three. The spines, procumbent stem, and pink butterfly-shaped flowers make this plant easily known.

DIADELPHIA. DECANDRIA.

CALYCIFLORÆ. FABACEÆ.

ANTHYLLIS. (KIDNEY VETCH.)

Generic Character. *Calyx* inflated, silky, and five-toothed. *Petals* nearly equal in length. *Seed-vessel* oval, from one to three seeds, enclosed in a permanent calyx.

ANTHYLLIS VULNERARIA. *Common Kidney Vetch,* or *Lady's Fingers.* This pretty plant is frequent in dry pastures. The flowers grow in crowded heads, and in pairs, mostly yellow, but occasionally red, and sometimes white, or cream-coloured. The calyx is hairy, beneath which the bracteas are finger or hand-shaped. Stem ascending; leaflets from five to nine, long and narrow, entire, hairy, and the terminal one the largest.

DIADELPHIA. DECANDRIA.

CALYCIFLORÆ. FABACEÆ.

LATHYRUS. (VETCHLING, EVERLASTING PEA.)

Generic Character. *Calyx* with the opening oblique, its upper segments shortest. *Style* (which is afterwards the pod) downy and broad at the top. *Leaves* with tendrils.

This is a very pretty genus of plants, greatly resembling the garden Everlasting Pea, particularly some species, which come into flower next month.

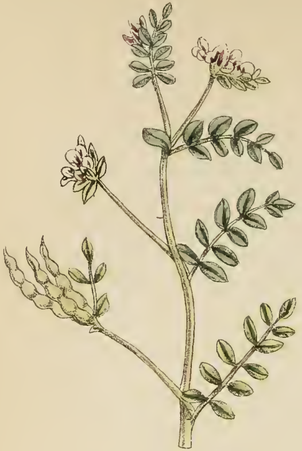
LATHYRUS NISSOLIA. *Crimson Vetchling,* or *Grass Vetch.* Bushy and grassy places in many parts of England. All the species have tendrils but this; the leaves are long, narrow, and without stalks; stipules awl-shaped. Flowers mostly growing singly, and very pretty.

LATHYRUS HIRSUTA. *Rough-podded Vetchling.* This is not very common, but found in cultivated fields in Essex, and between Bath and Bristol. The flowers grow two together, are of a pale colour, except the standard, which is bright crimson. Each tendril has a pair of long, narrow leaflets. Pod hairy, and the seeds rough.

LATHYRUS APHACA. *Yellow Vetchling.* A rare and singular species, the tendrils only having leaves when the plant is very young. The flowers are yellow, growing singly. It is found rarely on the borders of sandy and gravelly fields in Cambridgeshire, Oxfordshire, Norfolk, and near London.

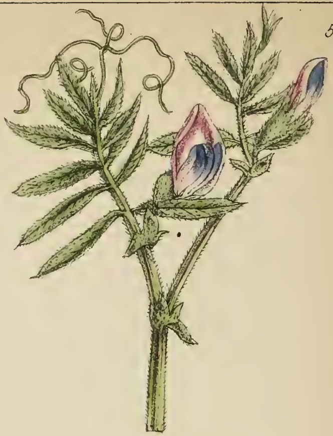
Plate 15.

57.



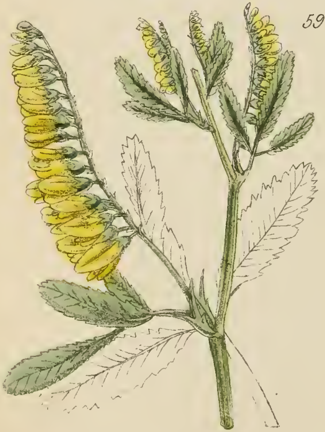
Ornithopus perpusillus, *Linn.*

58.



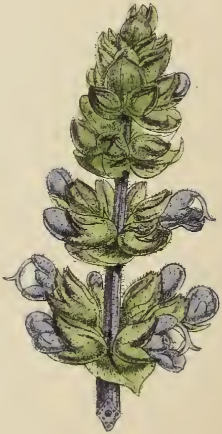
Vicia sativa, *Linn.*

59.



Melilotus officinalis, *Lam.*

60.



Salvia verbenaca, *Linn.*

Reeve, lith. et imp.

VICIA. (VETCH.)

DIADELPHIA. DECANDRIA.

CALYCIFLORÆ. FABACEÆ.

Generic Character. *Style* (the thin part of the pistil) downy beneath the *stigma* (the knob at the top). Climbing plants. *Leaves* with tendrils.

We now commence this genus so commonly known everywhere. One of the first species which shows flower is

VICIA SATIVA. (Plate XV. Fig. 58.) *Common Vetch.* It is found in hedges and cultivated ground. Leaves with from two to six pairs of leaflets on a stalk, and a tendril at the end. Flowers large, purple and blue, or red, mostly in pairs, without stalks. Plant about a foot high, and very pretty. Two others which botanists have made into species, *V. angustifolia,* and *V. lathyroides,* are supposed by others to be only poor and starved specimens of the above. Another,

VICIA LUTEA, *Rough Podded Yellow Vetch,* is in flower now, on rocky ground near the sea. It has yellow flowers, large and solitary. Leaves small and divided into many pairs. It is not common.

VICIA SEPIUM. *Bush Vetch.* Woods and shady places, frequent. One to two feet high. Leaflets large, the lowest the most so. Flowers purple, and four together. Pod smooth.

DIADELPHIA. DECANDRIA.

CALYCIFLORÆ. FABACEÆ.

ERVUM. (TARE.)

This genus has plants very similar to the Vetches, but much more slender, and the flowers considerably smaller.

ERVUM HIRSUTUM. *Hairy Tare.* Very frequent in cornfields and hedges. Stems two to three feet long, weak, straggling, and climbing. Four or five small blue flowers on one stalk. Seed-vessel hairy, and two-seeded. Leaflets numerous.

ERVUM TETRASPERMUM. *Smooth Tare.* Found in most cornfields and hedges in England. Scarcely known in Scotland, and not at all in Ireland. Much smaller and more slender than the last. Two flowers only on a bunch, the seed-vessel smooth, and four-seeded, so that by examination it is easily distinguished. Leaflets fewer. They are both pretty, delicate little plants.

DIADELPHIA. DECANDRIA.
CALYCIFLORÆ. FABACEÆ.

ORNITHOPUS. (BIRD'S-FOOT.)

Generic Character. *Seed-vessels* round, long, and curved, the numerous seeds showing their shape, which makes them look like a bird's foot.

ORNITHOPUS PERPUSILLUS. (Plate XV. Fig. 57.) *Common Bird's-foot.* A most beautiful little plant in all particulars, as regards leaves, flowers, and pods. It is found in dry and gravelly soil, and is generally not many inches long, but I have found it late in the autumn, from three to four feet in length. The stem is branched and spreading at the base, indeed, it scarcely stands erect at any time. The pretty leaves are divided into from six to nine pair of oval leaflets, and a terminal one. The flowers are in small heads, three or four together, white with red lines, and quite minute. The curious seed-vessel has been described above, and is deserving of observation.

DIADELPHIA. DECANDRIA.

CALYCIFLORÆ. FABACEÆ.

MELILOTUS. (MELILOT.)

Generic Character. *Seed-vessel* with one or few seeds, not opening naturally, longer than the *calyx*. *Flowers* in a long spike.

MELILOTUS OFFICINALIS. (Plate XV. Fig. 59.) *Common Yellow Melilot*. Bushy places and way-sides produce this pretty delicate-looking plant. Its long spikes of small, yellow, butterfly-shaped flowers form an exceedingly beautiful object. The seed-vessel has two seeds, and is wrinkled. Corolla more than twice as long as the calyx. Stem erect. There is a white variety, or species, as some botanists make it, called *M. leucantha*, which flowers later.

DIADELPHIA. DECANDRIA.

CALYCIFLORÆ. FABACEÆ.

TRIFOLIUM. (TREFOIL.)

Generic Character. See page 163.

TRIFOLIUM PROCUMBENS. *Hop Trefoil*. This is a pretty species and very common. Yellow flowers in a small head, very thick together, and like the flower of the Hop, but more minute, and yellow instead of green. The leaves have stalks, leaflets rather heart-shaped. There is a smaller species,

TRIFOLIUM FILIFORME, *Lesser Yellow Trefoil,* Like the last in general appearance, but much smaller, the head of flowers much less thick and round. Leaves almost without stalks. It is frequent on roads and dry pastures.

DIADELPHIA. DECANDRIA.
CALYCIFLORÆ. FABACEÆ.

MEDICAGO. (MEDICK.)

Generic Character. See page 165.

MEDICAGO FALCATA. *Yellow Sickle Medick.* The flowers are yellow, on a drooping spike. Seed-vessel very slightly twisted. Pastures and borders of fields produce this plant in tolerable profusion.

SYNGENESIA. ÆQUALIS.
COROLLIFLORÆ. ASTERACEÆ.

HELMINTHIA. (OX-TONGUE.)

Generic Character. *Calyx* or *involucre* double, inner of eight close scales, outer of four or five large leafy ones. *Pappus* or *seed*, feathery and stalked. *Corolla* strap-shaped.

HELMINTHIA ECHIOIDES. *Bristly Ox-tongue.* From two to three feet high, stout and rough, with rigid hairs springing from tubercles. Leaves long and narrow, upper ones heart-shaped, and clasping the stem, all very rough. Flowers small, and yellow. Outer part of the calyx heart-shaped. It is frequent in a clayey soil on the borders of fields.

SYNGENESIA. ÆQUALIS.
COROLLIFLORÆ. ASTERACEÆ.

BIDENS. (BUR-MARIGOLD.)

Generic Character. *Calyx* or *involucre* of many scales, outer ones foliaceous at the base. *Corollas* tubular, erect and parallel.

BIDENS CERNUA. *Nodding Bur-Marigold.* Frequently found on the sides of ditches and rivulets. From one to two feet high, and even more, branched and slightly hairy. Leaves smooth, deeply cut at the edges, but not divided. Flowers large, greenish-yellow, and drooping. Seeds flat and oblong, with two or three bristles at the top.

Another species, *B. tripartita*, flowers later, and is distinguished by the leaves being divided into three or five parts, it is found in marshy places.

SYNGENESIA. SUPERFLUA.
COROLLIFLORÆ. ASTERACEÆ.

CHRYSANTHEMUM. (OX-EYE.)

Generic Character. *Involucre* hemispherical, formed by scales, the edges of which are membranous. No feathers to the *seed.*

CHRYSANTHEMUM LEUCANTHEMUM. *Great White Ox-eye.* This flower is like a large daisy, the ray being white, and the centre yellow. Stems from one to two feet high. Leaves partly clasping it, oblong, obtuse, cut and divided at the base, lower ones with stalks. It is abundant in dry pastures, and very conspicuous.

Chrysanthemum segetum. *Yellow Ox-eye.* Flowers large and yellow, the ray as well as the centre. Leaves clasping the stem, smooth, cut at the top and toothed at the base. One foot or more high, frequent in corn-fields.

Gynandria. Monandria.
Petaloideæ. Orchidaceæ.

ORCHIS. (Orchis.)

Generic Character. See page 109.

Orchis ustulata. *Dwarf dark-winged Orchis.* This species is found in dry chalky pastures, from four to six inches high. Calyx forming a covering like a helmet, within which are two small, narrow petals. Lip white with purple raised spots, the rest of the flower being purple. Leaves narrow and acute. A very pretty species.

Orchis pyramidalis. *Pyramidal Orchis.* Found in a chalky or clayey soil, in pastures and waste places. The leaves are very sharp-pointed. Flowers of a delicate rose-purple, sometimes white, spirally arranged in a close, broad, and oval head; the lip has three equal and entire lobes, spur long and thin.

Orchis latifolia. *Marsh Orchis.* Easily distinguished by the very long, narrow leaf, called a bractea under each flower, which latter vary from a pale rose-colour to deep purple, the lip dotted and marked with lines. It has broad, nearly erect, and sharp-pointed leaves. Common in marshes and moist meadows.

Orchis (Gymnadenia) conopsea. *Fragrant Gymnadenia.* Common in chalky pastures, scenting the atmosphere with its fragrance. It is about a foot high, with leaves longer than any other species, the flowers in a long, rather thick, spike, and of a rose-purple colour. Spur long and narrow.

Orchis (Habenaria) viridis. *Green or Frog Orchis.* In a gravelly or rocky soil, in most parts of England, this species may be found, but not growing very plentifully anywhere. It is easily known by the flowers being green instead of purple. The calyx and side petals are green, forming the helmet, and the lip is small, varying in colour from yellowish green to brown. About eight inches high, leaves ovate and obtuse. One more curious species must be mentioned.

Orchis (Ophrys) anthropophora. *Green-man Orchis.* Not common, but found in Kent and the south-eastern counties, in chalk pits, and by road-sides in a chalky soil. The flower is said to be, in figure, like a human being, but it more nearly resembles some insects. However, it has a very singular appearance, though, perhaps, less beautiful than many others. The stem is about a foot high. Leaves mostly near the root. Flowers in a long spike. Helmet green. Lower lip yellowish, with a red or brown margin, divided into three narrow, long, segments, the middle one being considerably lengthened, and divided into two, thus forming the legs of the figure, the other two being the arms.

GYNANDRIA. MONANDRIA.

PETALOIDEÆ. ORCHIDACEÆ.

EPIPACTIS. (HELLEBORINE.)

Generic Character. *Lip* very concave at the base, the extremity undivided, or three-lobed, the middle lobe large, and as it were jointed.

EPIPACTIS GRANDIFLORA. *Large White Helleborine.* A beautiful flower, found in woods and thickets in a chalky soil. Stem about a foot high. Leaves not confined to the root like many of the Orchis genus, but scattered on the stem, without stalks. Flowers single and drooping. Calyx and petals nearly equal, large, oblong, white, including the small lip which is also white, but with a bright orange spot on the inner side. It is a beautiful flower, and is occasionally found of a purplish hue.

DIŒCIA. HEXANDRIA.

PELALOIDEÆ. DIOSCOREÆ.

TAMUS. (BLACK BRYONY.)

Generic Character. Barren *flower*; *calyx* divided into six deep segments. No *corolla*. Fertile: the same, but contracted at the neck. *Berry* having three cells.

TAMUS COMMUNIS. *Common Black Bryony*. Common in hedges and thickets, but not in the north, or in Scotland. The stems are very twining, and ascend without tendrils the tallest bushes, hanging their fine red berries, in the autumn, above the head of the passer by. The blossom is very pretty, being formed of numerous spikes of small whitish flowers, showing themselves, with the fine, large, heart-shaped leaves, through and among the bushes. The root is black externally, whence its name.

CHAPTER VII.

JULY.

Summer flowers are now in perfection, and though we have lost the singular Orchis tribe, and some of the pretty, simple, spring plants, we have many new genera which are interesting. Hitherto we have found but few of the compound flowers, such as the *Daisy, Colt's-foot, Dandelion,* and a few more, but now they are beginning to be numerous, and during this and the following month there are several in perfection. We also find the *St. John's Worts,* which are striking and pretty plants, and many others equally pleasing. The corn-fields are in full beauty from the ripening grain, and the handsome flowers peculiar to those localities. Those who reside near heaths will have the pleasure, too, of studying the species of the genus *Erica*, or Heaths, the purple flowers of which make these otherwise barren-looking spots quite charming to the lover of botany. All nature is clothed in richer verdure, the variegated flowers wear livelier hues, and this appears particularly the case when seen early in the morning, whilst the dew is still on the leaves, the sun has not then dried up this refreshing moisture; and though from this cause, morning is, I believe, not considered the best time for gathering flowers, as they are then full of sap and moisture, (consequently losing their colours in the process of drying,) it is certainly the most favourable time for seeing their beauty in perfection.

DIANDRIA. MONOGYNIA.

COROLLIFLORÆ. SCROPHULARIACEÆ.

VERONICA. (SPEEDWELL.)

Generic Character. See page 41.

VERONICA SCUTELLATA. *Marsh Speedwell.* We can now find two more specimens, and the last of this pretty genus. There are still six species, rarely found, which I shall have left undescribed, but if those already mentioned have been met with, I am sure great interest is felt in the genus. The two following are found only in ditches and marshy places. The *Scutellata* is an elegant plant, with long, narrow leaves, a little toothed, and spikes of small flesh-coloured flowers, with darker bluish veins, proceeding from the leaves on long stalks. The stem is erect, as if designed to keep its delicate blossom from the boggy soil on which it grows.

VERONICA ANAGALLIS. *Water Speedwell.* This is a much larger plant, between one and two feet high, and in some localities as much as four. The stem is erect, leaves long and toothed, spikes of many bluish flowers, long, and proceeding from each side of the main stalk. The spikes are also very numerous, as well as the blossoms.

DIANDRIA. MONOGYNIA.

COROLLIFLORÆ. LAMIACEÆ.

SALVIA. (SAGE, OR CLARY.)

Generic Character. *Calyx* tubular and two-lipped. *Corolla* labiate, that is, having the lips of the flower open when it has arrived at maturity.

Salvia verbenaca. (Plate XV. Fig. 60.) *Wild English Clary,* or *Sage.* There are only two species of wild Sage found in England, one very rare, and this which is less so. A chalky or gravelly soil suits it best. It grows from one to two feet high, and has very wrinkled leaves, lower ones lobed, and on foot-stalks, upper sessile (not stalked,) less lobed, but more cut at the edges. A little leaf or bractea under each whorl of flowers, calyx large and hairy, corolla small, hardly projecting beyond the calyx, purple. The rare species,

Salvia pratensis, *Meadow Clary,* or *Sage,* is found in Kent, near Cobham. It is much more handsome, on account of the flowers being very large in comparison, the petals are purple, and three times as long as the calyx.

TRIANDRIA. DIGYNIA.

GLUMACEÆ. GRAMINACEÆ.

PHALARIS. (CANARY-GRASS.)

Phalaris canariensis. *Cultivated Canary-grass.* As many of my young readers may have Canary birds, which are so commonly fed on the seed which goes by their name, I shall tell them that the plant from which it is procured, is now naturalized in some parts of England, in consequence of having been much cultivated. It is a very handsome grass, with a large, round, solid-looking head of flowers, the calyx large, pale yellow-green, marked with deeper lines, and giving the whole a very pretty appearance. It is much cultivated in the Isle of Thanet.

TRIANDRIA. DIGYNIA.

GLUMACEÆ. GRAMINACEÆ.

ARUNDO. (REED.)

I shall pass over the *Rushes*, *Spike Rush*, and *Club Rush*, for the specific distinctions would be very difficult to the young beginner, but the Reed being so conspicuous a plant, need not be so treated.

ARUNDO PHRAGMITES. *Common Reed.* It will not fail to attract the eye of botanists during this month, if they are in the neighbourhood of lakes and rivers, where it often abounds. It is sometimes six feet high, with long, narrow, sharp leaves, and heads of flowers of a purple-brown colour, very handsome, and when ripe, forming a large feathery spike, as soft as silk.

It grows in large patches, and is encouraged, as its leaves and stalks are useful in thatching, &c.; it is a harbour for aquatic birds, and for sheltering the delicate, bearded Titmouse.

TETRANDRIA. MONOGYNIA.

COROLLIFLORÆ. DIPSACEÆ.

DIPSACUS. (TEASEL.)

Generic Character. Flowers in a thick head; in some of the species almost as large as a hen's egg, and something like it in shape.

DIPSACUS SYLVESTRIS. *Wild Teasel.* A curious looking plant, found on road-sides and in hedges, and likely to attract attention when in flower. The large head is covered with sharp spines, and the lilac corolla peeps out between each. These spines, which are attached to the receptacle, have been used for a singular purpose in manufactures, in the species called *Dipsacus fullorum*, which is cultivated expressly for this use. "It is called Fuller's Teasel, on account of being used in dressing cloth, for which purpose the hooked scales of the receptacle are admirably adapted. These heads are fixed round the circumference of a large broad wheel, which is made to revolve, while the cloth is held against them. Its use is to draw out the ends of the wool from the manufactured cloth, so as to bring a regular nap upon the surface free from twistings and knottings, and to comb off the coarse and loose parts of the wool." All mechanical contrivances hitherto invented, tear the cloth into holes during this progress. The *fullorum* is scarcely found wild, and *Dipsacus pilosus*, the third species, is not common. It is smaller in size than the *sylvestris*, and the heads of flowers are round and hairy, the scales straight.

TETRANDRIA. MONOGYNIA.

COROLLIFLORÆ. DIPSACEÆ.

KNAUTIA. (KNAUTIA.)

Generic Character. *Involucre* (or leaves under the head of flowers) many-leaved. *Calyx* double, exterior minute, interior cup-shaped. *Receptacle* hairy.

KNAUTIA ARVENSIS. *Field Knautia.* This plant has its flowers in heads also, with an involucre of many leaves under them, the flowers are lilac-purple, and when fully expanded are very pretty, the lower florets are large, and form a sort of ray around the head. Lower leaves long and narrow, slightly cut, and hairy. A common plant in pastures and cornfields, and easily distinguished if the reader is familiar with the sweet Scabious of the garden.

TETRANDRIA. MONOGYNIA.

COROLLIFLORÆ. DIPSACEÆ.

SCABIOSA. (SCABIOUS.)

The generic distinctions are nearly similar to the last, but the *receptacle* is scaly, the general appearance is the same.

SCABIOSA SUCCISA. *Devil's bit Scabious.* Common in meadows and pastures. Not unlike the last, the head of purplish-blue flowers being somewhat similar. The leaves hairy, stiff, toothed, and oblong; root leaves oval, and generally stalked.

SCABIOSA COLUMBARIA. *Small Scabious.* The leaves of this species are much divided, and on long foot-stalks, and the small leaves under the flower, called the involucre, are much larger than in the last; the flowers are purplish-blue, but smaller, so that it is not difficult to distinguish it. It is abundant in chalky soil in waste places.

TETRANDRIA. MONOGYNIA.

COROLLIFLORÆ. GALIACEÆ.

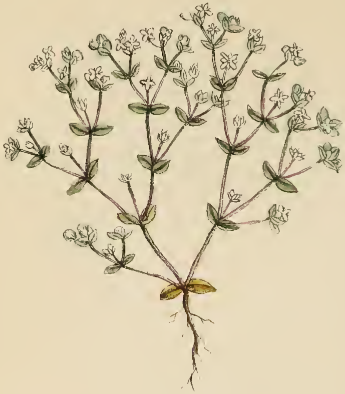
GALIUM. (BEDSTRAW.)

Generic Character. See page 127.

GALIUM VERUM. *Yellow Bed-straw.* Of this genus only two have yellow flowers, the *Cruciatum,* found in May, and the present species. It is very different in general appearance to the former, for instead of the minute yellow flowers growing in little whorls with the leaves, its blossom is in thick bunches, and as the flower is very small, it looks like a yellow feather. The leaves are about eight in a whorl, and very narrow. It is common on dry banks, sandy places, and sea shores. Formerly used in coagulating milk, and even now the Highlanders use the roots to dye red, they dig it up in immense quantities for that purpose in the Isle of Coll, one of the Hebrides, and it is said to yield as good a colour as the Madder.

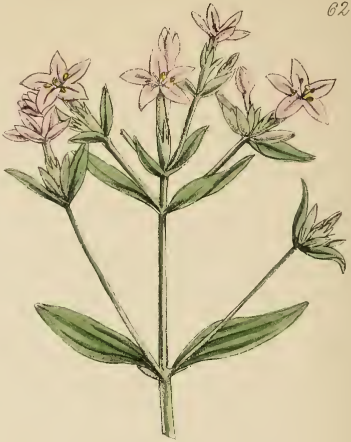
Plate 16.

61.



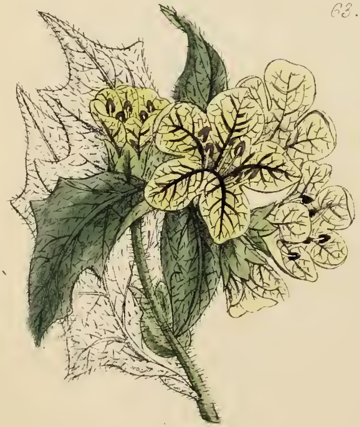
Radiola millegrana, *Smith.*

62.



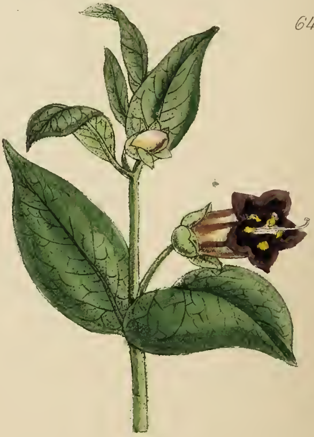
Erythræa Centaurium, *Pers.*

63.



Hyoscyamus niger, *Linn.*

64.



Atropa Belladonna, *Linn.*

Reeve, lith. et imp

GALIUM PALUSTRE. *White Water Bed-straw.* Generally growing in wet places, sides of ditches, lakes, and rivulets. Its leaves are long, and from four to six in a whorl. Flowers small, white, and growing in loose, spreading, branched bunches. The plant turns rather black in drying.

TETRANDRIA. TETRAGYNIA.

THALAMIFLORÆ. LINEÆ.

RADIOLA. (FLAX-SEED.)

Generic Character. *Calyx* of four leaves united up to the middle, and mostly three-cleft. *Petals four.*

RADIOLA MILLEGRANA. (Plate XVI. Fig. 61.) *Thyme-leaved Flax-seed.* A most curious little plant, so minute, as only likely to be observed by a botanist. It is scarcely more than an inch high, so that the whole plant lies in a very small compass. Its leaves are distant, entire, smooth, and, under a high magnifier, appear dotted. The minute flowers are on the top of the branches, single, and on short stalks. The slender stem is repeatedly divided into two parts, or forked, as it is termed. It must be sought for on boggy soils and in the wet parts of heaths.

PENTANDRIA. MONOGYNIA.

COROLLIFLORÆ. PRIMULACEÆ.

LYSIMACHIA. (LOOSE-STRIFE.)

Generic Character. *Calyx* divided into five. *Corolla* wheel-shaped. *Seed-vessel*, with one cell and ten valves.

Three species of this pretty genus, will most likely fall into the hands of the diligent student during this month.

LYSIMACHIA NEMORUM. *Yellow Pimpernel*, or *Wood Loose-strife.* A beautiful weed, and a great ornament to woods and shady places, where it is frequently found. The stem is creeping, leaves egg-shaped, pointed, and the small elegant yellow flower placed on a long foot-stalk, proceeds from the leaves. There are two of these to each pair of the upper leaves.

LYSIMACHIA NUMMULARIA. *Creeping Loose-strife.* As beautiful, but, perhaps, less elegant than the last; found in shady places and pastures. Its stem is quite prostrate. Leaves rather heart-shaped, and blunt. Flowers large, yellow, and only one on each foot-stalk, though there are generally two placed together on the main stem. It is rather a showy plant when in flower, as the blossoms are numerous and of a bright yellow. It is useful in rock work, and for covering unsightly ground.

LYSIMACHIA VULGARIS. *Great Yellow Loose-strife.* In appearance a very different plant to the two mentioned above. It is erect, from two to three feet high, with large oval leaves on short stalks opposite to each other, or three together. A large branched bunch of flowers terminates the stem, the corollas of which are large, yellow, and handsome. It grows on the sides of rivers, and wet shady places. There are two other species, but they are rare.

PENTANDRIA. MONOGYNIA.

COROLLIFLORÆ. GENTIANACEÆ.

ERYTHRÆA. (CENTAURY.)

Generic Character. *Calyx* five-cleft. *Corolla* funnel-shaped, and divided at the top into five parts.

ERYTHRÆA CENTAURIUM. (Plate XVI. Fig. 62.) *Common Centaury.* Frequent in dry pastures, and on old walls. Its pretty red blossoms are not very unlike Jessamine in shape, but so sensible of damp, that it is only seen expanding during the brightest sunshine, indeed, it begins to close itself before twelve. It varies in height according to situation, from a few inches to more than a foot. The leaves in pairs on the stem, those of the root spreading. Flowers rose-coloured and in bunches, the stalks of which are of various lengths.

PENTANDRIA. MONOGYNIA.
CALYCIFLORÆ. SOLANACEÆ.

HYOSCYAMUS. (HENBANE.)

Generic Character. *Calyx* tubular, divided into five. *Corolla* funnel-shaped. *Seed-vessel* two-celled, opening with a lid.

HYOSCYAMUS NIGER. (Plate XVI. Fig. 63.) *Common Henbane.* A poisonous plant, yet valuable as a medicine. Found in waste places, especially in a chalky soil, often near towns and villages, and gathered by country people for smoking in cases of toothache. The seeds are like a bean, and appear poisonous to all animals except the hog. The stem much branched, leaves clasping the stem, flowers with scarcely any stalk, and the corolla of a dingy yellow, beautifully veined with purple lines. Calyx also veined; whole plant soft and covered with hairs. The peculiar colour and appearance of the flower, and the fetid smell make it easily known.

PENTANDRIA. MONOGYNIA.

COROLLIFLORÆ. SOLANACEÆ.

ATROPA. (DWALE.)

Generic Character. *Calyx* divided into five. *Corolla* bell-shaped, twice as long as the calyx, five-lobed. *Berry* of two cells, enclosed by the calyx.

ATROPA BELLADONNA. (Plate XVI. Fig. 64.) *Common Dwale,* or *Deadly Nightshade.* One of our most poisonous plants. It is a tall, handsome herb, more than three feet high, with large undivided leaves, and bell-shaped flowers growing amongst them, of a dull purple colour, drooping, and on short foot-stalks. Berries shining, black, and very poisonous, and occasionally gathered by children and eaten, when fatal consequences follow if immediate aid is not procured. Drinking plentifully of vinegar is said to counteract the effects. Unfortunately the plant often grows near towns and villages, and therefore falls into the way of country children, who are often in danger from this circumstance. It is also found among ruins.

PENTANDRIA. MONOGYNIA.
COROLLIFLORÆ. SOLANACEÆ.

SOLANUM. (NIGHTSHADE.)

Generic Character. *Calyx* divided into from five to ten parts. *Corolla* of one petal divided into five, wheel-shaped. *Berry* roundish.

SOLANUM DULCAMARA. (Plate XVII. Fig. 65.) *Woody Nightshade.* A very climbing plant, found in moist hedges and thickets, with heart-shaped leaves, upper ones axe-shaped. Flowers in drooping bunches, purple, with two green tubercles at the base of each petal. Anthers large, yellow, united into a cone-shaped figure, and projecting beyond the corolla. Berries green, but becoming red. Used in medicine like the two preceding.

SOLANUM NIGRUM. *Common,* or *Garden Nightshade.* This differs from the last in having white flowers instead of purple, and black berries. It is frequent in waste places and fields, and is in flower till September or October.

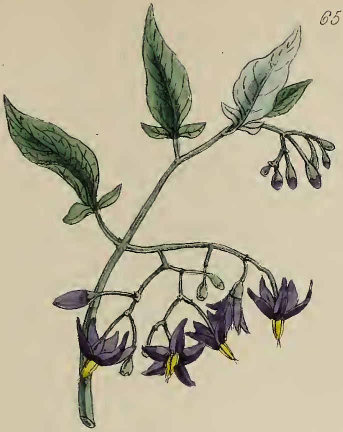
PENTANDRIA. MONOGYNIA.
COROLLIFLORÆ. SCROPHULARIACEÆ.

VERBASCUM. (MULLEIN.)

Generic Character. *Calyx* divided into five. *Corolla* wheel-shaped, irregular. *Stamens* often hairy.

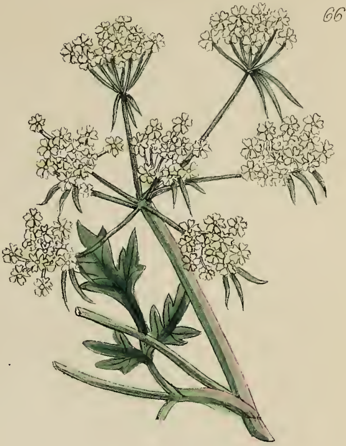
Plate 17.

65.



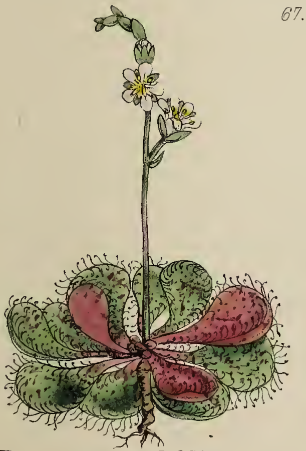
Solanum Dulcamara, *Linn.*

66.



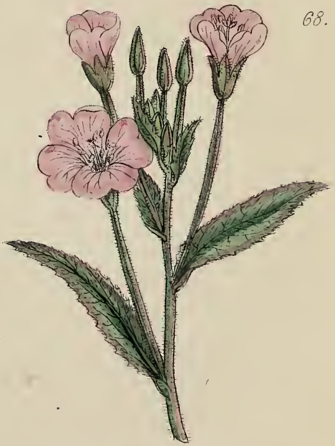
Æthusa Cynapium, *Linn.*

67.



Drosera rotundifolia, *Linn.*

68.



Epilobium hirsutum, *Linn.*

Reeve, lith. et imp.

Most persons have observed a large, very woolly-leaved plant on banks and waste places at this season of the year. It is the

Verbascum Thapsus. *Great Mullein.* When in flower it is strikingly handsome, the blossoms large and golden yellow, growing in a long, thick, cylindrical spike. Leaves thick, excessively woolly on both sides, oval and oblong, not stalked, but partly clasping the stem. It requires a light, sandy, gravelly, or chalky soil. In some places this plant is called the Flannel Plant, from the dense, woolly covering of its leaves, which is frequently picked off for tinder. Three of the stamens are hairy, and two smooth.

Verbascum Lychnitis. *White Mullein.* Distinguished by the mealy down on the leaves, which is easily removed if the hand is passed over them. Flowers large and handsome, very thick on the spike, and it is remarkable that when the plant is struck violently, the expanded corollas fall off in a short time. Road-sides, in gravelly or chalky soil.

Verbascum nigrum. *Dark Mullein.* Banks and way-sides in chalky or gravelly soil produce this species, which is nearly the only one that has not woolly leaves. It has oblong, heart-shaped, stalked leaves, of a dark green colour, sometimes a little hoary underneath. Flowers in clusters on the long spike, corolla rather large, and yellow, and stamens with bright purple hairs. There seems to be no reason for its being called "*nigrum,*" except, perhaps, that the leaves are not white with the woolly substance peculiar to the other species.

PENTANDRIA. MONOGYNIA.

COROLLIFLORÆ. CAMPANULACEÆ.

JASIONE. (SHEEP'S-BIT.)

Generic Character. *Corolla* wheel-shaped, in five deep segments. *Flowers* collected into a head within a many-leaved involucre.

JASIONE MONTANA. *Annual Sheep's-bit,* or *Sheep's-Scabious.* A little bright blue head of flowers, surrounded by an involucre, and the small stamens projecting beyond the corolla. It is not unlike, in general appearance, the *Scabiosa succisa,* described before, but is much smaller in all its parts, not being above six or eight inches high. Leaves narrow and hairy. It is found on dry heathy pastures.

PENTANDRIA. MONOGYNIA.

COROLLIFLORÆ. CAMPANULACEÆ.

CAMPANULA. (BELL-FLOWER.)

Generic Character. *Corolla* bell-shaped, and divided at the border into five parts.

Most of my readers will be familiar with some of the garden Bell-flowers, and will have no difficulty in distinguishing the wild species.

CAMPANULA ROTUNDIFOLIA. *Round-leaved Bell-flower, Hare-bell.* The most common of all this pretty genus, found everywhere, on dry and hilly pastures, borders of fields, walls, &c., and known most familiarly by the name of "*Blue-bell.*" The whole plant is slender and graceful, leaves on the stalk, long and narrow, root leaves rather round and heart-shaped, whence the name. Flowers blue, drooping, and a few together. This elegant flower is often spoken of by our poets.

CAMPANULA PATULA. *Spreading Bell-flower.* Not nearly so common as the last, and the flower much more elegant. It seems to be confined to the middle and southern counties, and even then not very common. In the deep lanes in Sussex it is occasionally met with. It is taller than the last, has rough and longer leaves, and the corolla is not so blue but purple, much more open, and not so bell-shaped. In drying it loses all its beauty, and the flower turns white.*

Campanula Trachelium. *Nettle-leaved Bell-flower.* Frequent in woods. Leaves much like those of the Nettle, cut at the edges. Stem angular. Flowers purple, and in small bunches.

Campanula glomerata. *Clustered Bell-flower.* In dry chalky and clayey pastures, varying much in height, from three inches to a foot. Leaves rough, oblong, root leaves stalked, those of the stem clasping. Flowers rather large, purple, in a cluster at the top.

Campanula hederacea. *Ivy-leaved Bell-flower.* A very pretty and delicate species, abundant in Devonshire, Cornwall, Surrey, and other southern and midland counties. Stem weak and fine. Leaves all stalked, heart-shaped, toothed, and smooth. Flower-stalks long, slender, generally terminal, each having a slender, bell-shaped blossom of a light blue, at first drooping, and then erect. The whole plant small and very elegant.

Campanula hybrida. *Corn Bell-flower.* Found rather later than the rest, in corn-fields of a dry and chalky nature, but confined to the middle and southern counties. The stem simple or branched from the base, leaves oblong, and waved. Corolla purple, wide, and spreading. There are still four species of this beautiful genus, but they will scarcely be met with by those new to the study.

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* If steeped in alum water, before being dried, it will preserve the colour better; this method, indeed, succeeds in most flowers.

PENTANDRIA. DIGYNIA.

COROLLIFLORÆ. CONVOLVULACEÆ.

CUSCUTA. (DODDER.)

Generic Character. *Calyx* four or five-cleft. *Corolla* bell-shaped, in four or five lobes. Parasitical plants, that is, growing on others, without leaves, and having long, twining thread-like stems.

CUSCUTA EPITHYMUM. *Lesser Dodder.* This singular plant is found frequently on Furze, Heath, and Thyme, in exposed places. It strikes root in the ground, but as soon as the stalk has fixed itself the old root withers away, and it trusts for nourishment to other plants, twining about them, and fixing little roots into the bark. Before the flowers appear, when nothing but the red thread-like stalks are seen, it has a curious appearance, but the flowers are very pretty, the calyx red, and the corolla white, growing in little bunches of five or six together. The botanist must look narrowly for it in the situations above-named. There is another species, *C. Europæa*, but not common, found on Nettles, Flax, &c.; it is much larger than the last, and its flowers are of a pale, yellowish rose-colour.

PENTANDRIA. DIGYNIA.

CALYCIFLORÆ. APIACEÆ.

CICUTA. (COWBANE.)

Generic Character. *Calyx* of five teeth, leafy. *Petals* white, and rather heart-shaped. *Fruit* roundish, contracted at the sides. *Involucre*, or leaves under the umbel, of few divisions, those under the smaller umbels of many leaves. *Stalks* hollow.

CICUTA VIROSA. *Water Hemlock*, or *Cowbane*. Fortunately this is not a very common plant, for it is a deadly poison to man, and though cattle are said to eat the young leaves, I imagine, from the name, that it is supposed to be injurious to them. It is an umbelliferous plant, appearing in ditches, and about the sides of streams. The stem is three or four feet high, hollow, and divided within by partitions, into cells. The leaves are twice divided, those of the root with more numerous divisions. Umbel of flowers proportioned to the size of the plant.

PENTANDRIA. DIGYNIA.

CALYCIFLORÆ. APIACEÆ.

HELOSCIADIUM. (MARSHWORT.)

Generic Character. See page 135.

HELOSCIADIUM NODIFLORUM. *Procumbent Marshwort.* Stem procumbent, leaves divided into distinct leaflets, which are ovate, and cut at the edges, those of the root sometimes having a lobe at the base. Flowers small, in umbels, without stalks, opposite the leaves. Sides of lakes and rivulets.

HELOSCIADIUM REPENS. *Creeping Marshwort.* The leaves of this species are broader, and the umbels have stalks, but in other respects it scarcely differs from the last. They are both found in watery places, the last particularly, in boggy meadows in Oxfordshire, Cambridgeshire, and Bedfordshire.

Pentandria. Digynia.

Calycifloræ. Apiaceæ.

BUPLEURUM. (Hare's-ear.)

Generic Character. No *calyx*. *Petals* roundish. *Involucre* longer than the small flower, divided into five rather large leaves.

Bupleurum rotundifolium. *Common Hare's-ear,* or *Thorow Wax*. Not very common, but generally found on dry and chalky soils, growing in corn-fields. It is easily known by its singular leaves, which are quite round at the base, pointed at the top, and the main stalk piercing through the middle, or nearly so, of each. The flowers are small, and yellowish, the involucre being large, and divided into five distinct leaves, a little tinged with red.

Pentandria. Digynia.

Calycifloræ. Apiaceæ.

ŒNANTHE. (Water Dropwort.)

Generic Character. *Calyx* having five teeth. *Petals* nearly heart-shaped. No *involucre* at the *bottom* of the flower-stalks in some species, in others a few leaves. Partial involucre, (that at the *top* of the long flower-stalks) of many leaves. These stalks are of various lengths, forming a flat head of flowers.

Œnanthe crocata. *Hemlock Water Dropwort.* Among the umbelliferous plants, this is one likely to catch the eye of the botanist when in flower. The umbel is large and handsome, some of the spokes long, others short, forming a flat white head of little umbels at the top. The leaves are large, and repeatedly divided, and subdivided. The stem is from three to five feet high, growing near watery places, by ditches and rivers.

Pentandria. Digynia.
Calycifloræ. Apiaceæ.

ÆTHUSA. (Fool's Parsley.)

Generic Character. No *calyx.* *Petals* heart-shaped. There is no *involucre* at the bottom of the large spokes or flower-stalks, but at the top, one formed of three drooping leaves.

Æthusa Cynapium. (Plate XVII. Fig. 66.) *Common Fool's Parsley,* or *Lesser Hemlock.* Common in fields and gardens, and easily known by the three leaves of the involucre; it grows about a foot high, with a striped, branched, and very leafy stem, leaves doubly or trebly divided. Umbels of small white flowers on long stalks. The plant is poisonous, and the smell very disagreeable.

PENTANDRIA. DIGYNIA.

CALYCIFLORÆ. APIACEÆ.

CRITHMUM. (SAMPHIRE.)

Generic Character. No *calyx*. *Petals* rolled up. *Seed-vessel* with five elevated sharp ridges. Both *involucres* of many leaves.

CRITHMUM MARITIMUM. *Sea Samphire*. Only found on the coast, and so frequently made into a pickle by the inhabitants of watering places, that perhaps, the reader may be familiar with it. There is another plant used as a pickle, and often passed under the same name, but it is considered inferior for the purpose. The Samphire is very succulent, leaves divided generally into three long narrow parts, and very fleshy. Stalks of the umbels rather thick, and the eaves of the involucre broad.

PENTANDRIA. PENTAGYNIA.
COROLLIFLORÆ. PLUMBAGINACEÆ.

STATICE. (THRIFT.)

Generic Character. *Calyx* of one piece, dry, and membranous. *Petals* five, united at the base.

STATICE ARMERIA. *Common Thrift*, or *Sea Gilliflower*. The species of this genus are all natives of muddy sea shores. This species, called Thrift, from its thriving everywhere, is found also on the tops of the highest mountains. It has heads of rose-coloured flowers, intermixed with rather shining scales, and below, an involucre of three brown membranous leaves. Leaves long and narrow. It is frequently found in gardens, as a border to flower beds.

STATICE SPATHULATA. *Upright spiked Thrift*. This has a very different appearance to the last. The pretty lilac flowers are in a large branching bunch, the leaves mostly at the root, and shaped like a tongue. It is found on the south coast in several places, and on the north coast of Devonshire. Another species,

STATICE LIMONIUM, *Sea Lavender*, has longer leaves, sometimes exceeding four inches in length, the flowers greatly resemble those of the *Spathulata*.

PENTANDRIA. PENTAGYNIA.

THALAMIFLORÆ. LINACEÆ.

LINUM. (FLAX.)

Generic Character. *Calyx* of five leaves, remaining after the fruit is ripe. *Petals* five. *Seed-vessel* globular, with ten valves, and ten cells. The genus takes its name from the Celtic word *Lin*, thread.

LINUM USITATISSIMUM. *Common Flax.* This is the plant which yields the valuable flax so much in use. It is found wild in corn-fields occasionally, but is cultivated to a great extent in many places. From the seeds is expressed the oil, known as Linseed oil, and the seeds themselves are used for various medicinal purposes. The plant has long and distant leaves. Flowers large, purplish-blue, and very pretty. It is a slender plant, about a foot high.

LINUM ANGUSTIFOLIUM. *Narrow-leaved pale Flax.* Very similar in appearance to the last, leaves narrow, flowers paler blue, and smaller in proportion to the size of the calyx. It is found in sandy and chalky pastures, principally near the sea.

LINUM CATHARTICUM. *Purging Flax.* Much smaller in every respect, only about six inches high, stem slender, with opposite oblong leaves, and white, small flowers, drooping before expansion. Pastures and heaths are the principal localities, but it is almost everywhere abundant.

PENTANDRIA. HEXAGYNIA.

MONOCHLAMYDEÆ. DROCERACEÆ.

DROSERA. (SUNDEW.)

Generic Character. *Calyx* five-cleft. *Petals* five. Plants with *leaves* clothed with glandular hairs, and curling inwards when they first begin to grow.

DROSERA ROTUNDIFOLIA. (Plate XVII. Fig. 67.) *Round-leaved Sundew.* This interesting plant, found on bogs and moist heathy ground, has its leaves round, and growing from the root. They are all covered with hairs of a reddish hue, and sticky to the touch, from which proceed little drops of sweet liquor, that attract small insects, and retains them by its stickiness, the leaf then closes up till their struggles are over. Dead insects are frequently discovered on the surface, but it is difficult to say of what use they can be to the plant; perhaps the juices of the decaying insect may be valuable to its nourishment. The flowers grow on a stalk about four or five inches high, are white and very pretty. Another species, *D. longifolia,* is not so common, but easily distinguished, from the leaves being very long, and tongue-shaped, and clothed with hairs in the same way as the *rotundifolia.* They will both require searching for, on boggy heaths, as they are not conspicuous in the distance.

HEXANDRIA. TRIGYNIA.

MONOCHLAMYDEÆ. POLYGONACEÆ.

RUMEX. (DOCK.)

Generic Character. See page 215.

I have mentioned two species of this genus distinguished by the acidity of their leaves, and called Sorrels, the rest of the genus are known by the name of Dock, and under that name I have no doubt my readers are familiar with their large handsome leaves. It is only a practised botanist that will be able to distinguish the species by their flowers, I shall, therefore, describe the most common by their leaves.

RUMEX HYDROLAPATHUM. *Great Water Dock.* Found in ditches and on the sides of rivers. Leaves rather narrow, a foot and a half long, the largest of the Docks, and from three to five feet high.

Rumex crispus. *Curled Dock.* Way-sides, and near houses. Leaves long, all waved and crisped at the margin; two to three feet high.

Rumex pratensis. *Meadow Dock.* Road-sides. Leaves broader and less curled than the last.

Rumex acutus. *Sharp Dock.* Moist soils and watery places. Leaves oblong, heart-shaped, and pointed.

Rumex pulcher. *Fiddle Dock.* Pastures and way-sides. Leaves shaped like a fiddle.

Rumex obtusifolius. *Broad-leaved Dock.* Very common by way-sides, and in waste places. Two to three feet high, distinguished by its broad and obtuse lower leaves, which are generally crisped at the edge.

Rumex maritimus. *Golden Dock.* Marshes, principally near the sea. Known by its narrow leaves, excessively crowded flower, and bright, almost orange-coloured enlarged petals.

Octandria. Monogynia.

CorolliflORÆ. Gentianaceæ.

CHLORA. (Yellow-wort.)

Generic Character. *Calyx* below the fruit, of eight deep segments. *Corolla* of one petal, nearly wheel-shaped. *Seed-vessel* of one cell, with numerous minute seeds.

Chlora perfoliata. *Perfoliate Yellow-wort.* A beautiful plant when well grown, and frequently found in the middle and southern parts of England, in chalky and hilly pastures. I have gathered it both in Lancashire, Nottinghamshire, and the Isle of Wight. The leaves are curious, and appear as if two opposite ones were joined together, and the stalk piercing them in the middle; they are very smooth and shining. The bright yellow flowers form a loose bunch, and are very elegant.

Octandria. Monogynia.

Corollifloræ. Ericaceæ.

ERICA. (Heath.)

Generic Character. *Calyx* below the fruit, of four leaves. *Corolla* of one petal, bell-shaped, or ventricose.

We have only three species of this plant common in England.

Erica (Calluna) vulgaris. *Common Ling.* Common on all heaths and moors, and much used for brooms and fuel. It is a low, much branched, straggling shrub. Leaves very small, opposite, and closely wrapped one over the other in four rows. Flowers small, reddish, shining, drooping, and not stalked. Sometimes found white.

Erica cinerea. *Fine-leaved Heath.* Abundant on heaths and moory ground. Easily distinguished by its long rows of dark purple, bell-shaped flowers, the leaves being long and narrow.

Erica tetralix. *Cross-leaved Heath.* Perhaps the most beautiful of the three, with its little head of delicate rose-coloured flowers, larger than either of the other species, and drooping gracefully at the top of the stalk. Sometimes found of a pure white. Leaves four in a whorl. These three plants make the otherwise barren heaths look quite brilliant in this, and the following month. In Cornwall is found a beautiful species called *E. vagrans,* which, at present, has not been seen elsewhere.

Octandria. Monogynia.

Calycifloræ. Onagraceæ.

EPILOBIUM. (Willow-herb.)

Generic Character. *Calyx* above the fruit, divided into four, and falling off. *Petals* four. *Seed-vessel* very long, containing many seeds, each having a tuft of hairs at one end.

The seed-vessel, of all the species, when fully ripe, is a very pretty object, it divides at the top, and as it splits down displays the small seeds, each invested with a tuft of down; these hang to the pod for some time ready to be blown away, and spread about, as soon as they are thoroughly ripe.

Epilobium angustifolium. *Rose-bay Willow-herb.* A very handsome plant indeed, and far from common, found on moist banks and margins of woods, in Surrey and Sussex. Stems from four to six feet high, leaves scattered, long and narrow, smooth and veined. Flowers large, petals irregular purplish rose-colour, and placed at the top of the pod, which shows itself before the blossom falls off. The flowers form a long spike, and are remarkably beautiful. It is cultivated in gardens.

Epilobium hirsutum. (Plate XVII. Fig. 68.) *Great hairy Willow-Herb.* This nearly equals the last in beauty, the flowers being very large, of a purplish rose-colour, but the petals are more regular in form. It is common on the sides of ditches, rivers, and lakes. It grows so luxuriantly in the Isle of Wight, that in some places it almost hides from sight the running stream. It is as tall as the last, but less elegant in form, the flowers not being in long spikes, but more in a bunch; the stem much branched, the leaves hairy, clasping the stem, rather long and narrow, and neatly cut at the edges.

EPILOBIUM PARVIFLORUM. *Small-flowered Willow-herb.* Frequent in marshes, and watery places. Much smaller than the last in every respect. Stem nearly simple, leaves not stalked, rather long, downy on both sides. Flowers very small, on a long pod.

EPILOBIUM MONTANUM. *Broad smooth-leaved Willow-herb.* Frequent on dry shady banks, walls, &c. Leaves with short stalks, oval, sharp-pointed, and deeply cut at the edges; flowers larger than the last species.

EPILOBIUM TETRAGONUM. *Square-stalked Willow-herb.* Leaves long and narrow, no stalks, toothed. Stem with four angles. Common in watery places.

EPILOBIUM PALUSTRE. *Narrow-leaved Marsh Willow-herb.* Boggy places, and the sides of lakes and ditches. About a foot high, flowers small, leaves narrow, and long, no stalks, scarcely cut at the edge, and, as well as the stem, nearly smooth.

OCTANDRIA. TRIGYNIA.

MONOCHLAMYDEÆ. POLYGONACEÆ.

POLYGONUM. (PERSICARY.)

Generic Character. See page 217.

POLYGONUM FAGOPYRUM. *Buck-wheat.* This species is often cultivated for its seeds, with which poultry and pheasants are fed, but it is found wild occasionally on cultivated land. It is an exceedingly pretty plant; stem nearly erect, about a foot high, and branched. Leaves heart-shaped. Flowers pale red, in spreading bunches, and yielding a curious shaped seed, of a light brown, streaked with black, three-sided, and large for the size of the plant.

POLYGONUM CONVOLVULUS. *Climbing Buck-wheat.* Frequent in corn-fields, twining amongst the corn, sometimes growing to a great length. The leaves are heart or arrow-shaped. Flowers greenish, on very long stalks, and numerous. Seeds three-sided.

POLYGONUM AMPHIBIUM. *Amphibious Persicary.* A handsome species, growing by ponds, lakes, and ditches. Stem from two to three feet long, with numerous long, smooth leaves, arising from sheaths upon the main stalk. Spikes of flowers, mostly terminal, of a bright, rose-colour, and raising themselves above the water. Stem often taking root at intervals between the leaves.

DECANDRIA. DIGYNIA.

THALAMIFLORÆ. CARYOPHYLLACEÆ.

SAPONARIA. (SOAPWORT.)

Generic Character. *Calyx* tubular, five-toothed, without bracteas at the base. *Petals* six. The claws as long as the calyx.

SAPONARIA OFFICINALIS. *Common Soapwort.* This plant derives its name from its making a lather with water, like soap, and it is sometimes used for that purpose. It is found by road-sides, margins of woods, and hedge banks about cottages, so that formerly in all probability it was cultivated by poor people, before soap was much used. It grows about a foot and a half high, with a stout stem, and many, rather long leaves, each with three strong nerves. The flowers form a bunch at the top, and are numerous, large, and rose-coloured; the calyx is very long and tubular.

DECANDRIA. DIGYNIA.

THALAMIFLORÆ. CARYOPHYLLACEÆ.

DIANTHUS. (PINK.)

Generic Character. *Calyx* tubular, five-toothed, with about four opposite scales at the base. *Petals* five.

DIANTHUS ARMERIA. *Deptford Pink.* Not very uncommon in pastures and hedges. About a foot and a half high, branched upwards. Leaves narrow, opposite, rather downy. Flowers in a thick cluster, petals rose-colour, with white dots, jagged at the edge, scentless. Another species of Pink grows on old walls and castles, and is the origin of our garden Pink, though but a poor looking specimen by its side; it is called *Dianthus caryophyllus,* Clove Pink, Carnation, or Gillyflower.

DECANDRIA. PENTAGYNIA.

THALAMIFLORÆ. CARYOPHYLLACEÆ.

AGROSTEMMA. (COCKLE.)

Generic Character. *Calyx* tubular, with five teeth. *Petals* five, the border undivided.

Agrostemma Githago. *Corn Cockle.* A well known, and ornamental plant in corn-fields; the flowers are large and purple, and the calyx is so peculiar that the plant is easily distinguished by it: the lower part is tubular and large, and the upper part is divided into five very long, narrow leaves, which project beyond the petals. The plant grows about two feet high, branched and erect, and with long, narrow leaves, and every part clothed with silky hairs. Though admired by the lover of flowers, it is not a favourite with the farmer, for the numerous, large, black seeds are thrashed out with the corn, and injure the quality of the grain.

Dodecandria. Monogynia.

Calycifloræ. Lythraceæ.

LYTHRUM. (Purple loose-strife.)

Generic Character. *Calyx* below the fruit, tubular, with twelve teeth, alternately smaller. *Petals* six, fixed on the calyx.

Lythrum salicaria. *Spiked purple Loose-strife.* A very handsome plant when in flower, and sure to attract attention by its long spike of beautiful purple flowers, peeping above the Reeds, and Rushes, of the watery and marshy places where it grows. The stem is often three feet high, the leaves opposite, long, and heart-shaped at the base, and growing mixed with the flowers, as well as at the lower part. I have found it in Surrey with the spike of flowers more than a quarter of a yard long. There is a small species, also, L. HYSSOPIFOLIUM, *Hyssop-leaved Loose-strife,* growing in moist places in the east of England, not above six inches high, with small flowers.

DODECANDRIA. TRIGYNIA.
CALYCIFLORÆ. RESEDACEÆ.

RESEDA. (ROCKET.)

Generic Character. *Calyx* of one piece, divided into many parts. *Petals* very unequal. *Seed-vessel* of one cell, opening at the top.

RESEDA LUTEOLA. *Dyer's Rocket, Yellow Weed,* or *Weld.* The two species of this genus are called Wild Mignionette, but more particularly the second. Some of my readers may be surprised to hear of that plant growing wild in England, but they will find on placing the two together, that they are very similar in appearance, though the garden plant boasts of its sweet scent, which its wild companion does not possess. The garden species (*Reseda odorata*) originally came from Egypt. The present species produces a dye, and is used for giving cottons, silks, and woollens a yellow colour in various shades, by the use of alum, and the colour is very good and lasting. A blue tincture changes it to a fine green. It grows in waste places, frequently on a chalky soil, and particularly near the sea, where it often covers the top of the otherwise bare cliffs, with its long spikes of yellow flowers. The leaves are long and undivided, which distinguishes it from the other species,

RESEDA LUTEA, *Base Rocket*, or *Wild Mignionette*, where the leaves are very variable, but usually divided into three. Flowers a deeper yellow, and generally growing in the same places as the last species.

DODECANDRIA. DODECAGYNIA.

CALYCIFLORÆ. CRASSULACEÆ.

SEMPERVIVUM. (HOUSE-LEEK.)

Generic Character. *Calyx* divided into twelve parts. *Petals* twelve.

SEMPERVIVUM TECTORUM. *Common House-leek.* Well known, growing on cottage roofs and walls. Leaves thick and fleshy, collected together near the root. Flowers very handsome, and curious in structure; they have, in reality, twenty four stamens, one at the bottom of each petal, producing pollen as usual, the other twelve alternate with the petals, not possessing pollen like the rest, but little unripe seeds at the top.

ICOSANDRIA. PENTAGYNIA.
CALYCIFLORÆ. ROSACEÆ.

SPIRÆA. (MEADOW-SWEET, OR DROPWORT.)

Generic Character. *Calyx* below the fruit, five-cleft. *Petals* five.

SPIRÆA ULMARIA. *Meadow-sweet, Queen of the Meadows.* A lovely plant, quite deserving both its pretty names The small flowers are of a yellowish white, or cream-coloured, very numerous, and in a large loose bunch resembling a feather, which moves gracefully with the slightest puff of wind. The smell is very sweet, but it contains so much Prussic acid, that it has been known to produce fatal effects on persons who have remained long with much of it in a close atmosphere. The leaves are handsome, much divided, the terminal one three lobed, cut at the edges, and very white underneath. Stems from three to four feet high. It is tolerably common in meadows, and on banks of ponds and ditches. A more uncommon species, the

Spiræa Filipendula, *Common Dropwort,* is found in dry pastures in a chalky or gravelly soil. Stem a foot high, leaves more divided than the last, and deeply cut at the edge. Flowers yellowish-white, tipped with rose-colour. There is another species found in the north with rose-coloured flowers, *S. Salicifolia.*

Polyandria. Monogynia.

Thalamifloræ. Papaveraceæ.

PAPAVER. (Poppy.)

Generic Character. *Calyx* of two leaves, which fall off. *Petals* four. *Seed-vessel* globular, flat at the top.

This well known genus of plants requires not a very scientific description, for even those who have not thought much about plants are familiar with its form. The common species, Papaver Rhæas, *Red Poppy,* is a great ornament in our corn-fields, though, I believe, the farmer would rather dispense with its bright beauties. The petals are broad, deep scarlet, stem many-flowered, leaves divided, seed-vessel roundish.

Papaver dubium, *Long smooth-headed Poppy,* has a paler flower than the last, and an oblong seed-vessel.

Papaver argemone, *Long prickly-headed Poppy,* has small flowers, petals narrow, and scarlet. Seed-vessel hairy and ribbed.

Papaver somniferum, *White Poppy,* is the species cultivated for producing opium, it has white flowers with a purple eye. Scarcely found truly wild in England. It is supposed to have been brought originally from Asia. Opium is a kind of thick white fluid, which flows from the stem and seed-vessel on being cut: this, when hardened, is known by the name of opium cakes.

POLYANDRIA. MONOGYNIA.
THALAMIFLORÆ. PAPAVERACEÆ.

GLAUCIUM. (HORNED POPPY.)

Generic Character. *Calyx* of two leaves, falling off. *Petals* four. *Seed-vessel* very long and narrow.

Glaucium luteum. *Yellow-leaved Poppy.* This Poppy is easily distinguished from those mentioned above, not only by its colour, which is yellow, but by the great length of its pods, which are from six to twelve inches long. The leaves are of a greyish-green, and with the stem very smooth. The beautiful yellow petals very soon fall off after the flower is gathered. It is found plentifully on sandy and gravelly sea shores, where it is a great ornament, and grows frequently within reach of the spray from the waves.

Polyandria. Monogynia.
Thalamifloræ. Cistaceæ.

HELIANTHEMUM. (Rock-rose.)

Generic Character. *Calyx* of three equal leaves, or five, of which the two outer ones are smaller. *Petals* five. *Seed-vessel* with three valves.

Helianthemum vulgare. *Common Rock-rose.* This pretty plant is frequent in dry pastures, and on open downs, in chalky and gravelly soil. It is a procumbent little plant, its stem shrubby, leaves opposite, oblong, with a loose bunch of very pretty yellow flowers at the end, the calyx leaves furrowed, and the petals large for the plant, and delicate looking. There are other species, but they are rare.

POLYANDRIA. MONOGYNIA.

THALAMIFLORÆ. TILIACEÆ.

TILIA. (LIME.)

Generic Character. *Calyx* divided into five, falling off. *Petals* five. *Seed-vessel* with five cells.

TILIA EUROPÆA. *Common Lime,* or *Linden Tree.* A handsome tree, not a native originally, but supposed to have been introduced by the Romans, or, as some say, not till 1590, the two first being planted at Halsted, in Kent. It sometimes becomes a large tree, and is of very quick growth; the wood is used by turners and also for the carvings in wood which ornament our houses. Gibbons, who is much celebrated for the art, used it principally, and if my readers have seen any of his beautiful works at Chatsworth, or Petworth in Sussex, they will feel a new interest in this tree. The flowers are curious, and have so sweet a scent, that they attract bees in great numbers, they are of a yellowish-green, five or six in a bunch, springing from a large, long leaf, or bractea, which falls off with the fruit when it is ripe. The leaves of the tree are large, round, and pointed at the top. It is said that Linnæus, the botanist, derived his name from the Swedish name for this tree, *Lin*; we call it Linden, or Lime.

POLYANDRIA. PENTAGYNIA.
THALAMIFLORÆ. NYMPHÆACEÆ.

NYMPHÆA.

Generic Character. *Calyx* of four, or five leaves. *Petals* numerous, larger than the divisions of the calyx. *Stamens* united to the sides of the *seed-vessel.*

NUPHAR.

Generic Character. *Calyx* of five or six leaves. *Petals* numerous, small. *Stamens* distinct from the *seed-vessel.*

NYMPHÆA ALBA. *Great White Water-lily.*

NUPHAR LUTEA. *Common Yellow Water-lily.* These two plants have been seen, doubtless, by most young people, on lakes and ponds in parks and gardens. The white Water-lily is found frequently in lakes and still waters in Scotland, and the yellow is common in many rivers and lakes. The latter smells like brandy, and by country people is called "*brandy bottle.*"

POLYANDRIA. POLYGYNIA.

THALAMIFLORÆ. RANUNCULACEÆ.

RANUNCULUS. (CROW-FOOT.)

Generic Character. See page 56.

RANUNCULUS LINGUA. *Great Spear-wort.* The leaves of the two species now mentioned are different from the rest; being long and narrow. Those of the *Lingua* are also cut at the edge, and slightly clasping the stem. Flowers large, handsome, and yellow. Common in wet places, growing two or three feet high.

RANUNCULUS FLAMMULA. *Lesser Spear-wort.* Leaves narrow, stalked; the lower ones broader. Stem not upright at the base, and taking root. Very abundant on the sides of ditches. Nearly all the ten species I have described may be found in most neighbourhoods.

Didynamia. Gymnospermia.

Corolliforæ. Lamiaceæ.

THYMUS. (Thyme.)

Generic Character. *Flowers* whorled, or in a whorled head. *Calyx** with ten ribs, tubular, and with two lips; upper lip with three teeth, lower with two. *Corolla* with the upper lip erect, notched; lower spreading, and divided into three.

Thymus serpyllum. *Wild Thyme.* Abundant on hills, heaths, and dry pastures, rearing its small, pretty head of purple flowers just above the grass. The smell is very pleasant, resembling lemons. The flowers are in a head, the stalk branched, and trailing on the ground; leaves very small, oval, and opposite to each other.

Didynamia. Gymnospermia.

Corolliforæ. Lamiaceæ.

ORIGANUM. (Marjoram.)

Generic Character. *Flowers* in spikes, or heads, resembling a catkin (a long, round, hanging spike). *Corolla* with the upper lip erect, lower one divided into three.

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* A beautiful object for the microscope.

ORIGANUM VULGARE. *Common Marjoram.* Not unfrequent on dry, hilly, and bushy places. Stems about a foot high. Flowers purple, in crowded heads. Smell fragrant.

DIDYNAMIA. GYMNOSPERMIA.
COROLLIFLORÆ. LAMIACEÆ.

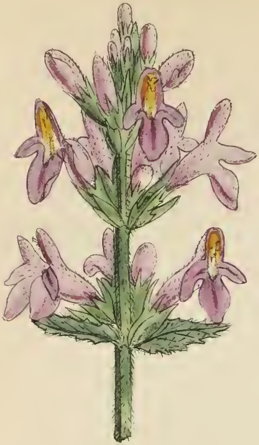
TEUCRIUM. (GERMANDER.)

Generic Character. *Calyx* tubular, five-toothed. *Corolla* with the upper lip nearly wanting; lower one spreading, and divided into three. *Stamens* projecting beyond.

TEUCRIUM SCORODONIA. *Wood Germander,* or *Sage.* Very frequent in woods and dry places. It is very bitter, and sometimes used instead of hops by the poor. Stems from one to two feet high, leaves heart-shaped, stalked, downy, very much wrinkled, and resembling Sage. Flowers of a yellowish white, growing in many, long spikes with the blossom all on one side. A pretty though not showy plant, and often found on commons, mixed with the Furze and Heath.

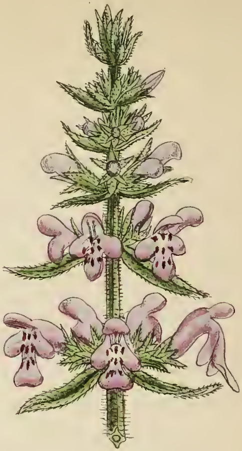
Plate 18.

69.



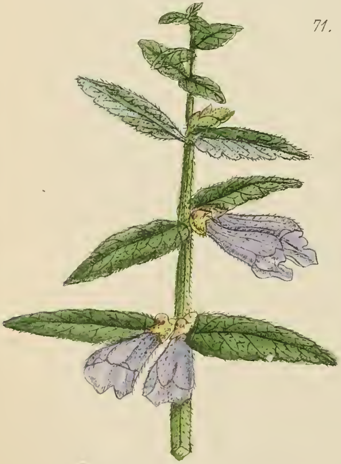
Betonica officinalis, *Smith.*

70.



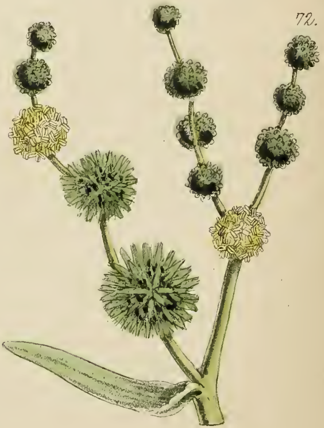
Stachys sylvatica, *Linn.*

71.



Scutellaria galericulata, *Linn.*

72.



Sparganium ramosum, *Huds.*

Reeve lith. et imp

Didynamia. Gymnospermia.
Corollifloræ. Lamiaceæ.

BALLOTA. (Horehound.)

Generic Character. *Calyx* flat at the top, with ten ribs and five teeth. *Corolla* with the upper lip erect and concave, lower one divided into three, middle lobe the largest.

Ballota nigra. *Black Horehound.* Very common, especially in the south, near towns and villages, by road-sides, and under walls. A shabby looking plant, exposed as it is to dust, and to be browsed on by passing animals. The stem is from two to three feet high, with large oval leaves; small purple flowers in whorls, of which there are many.

Didynamia. Gymnospermia.
Corollifloræ. Lamiaceæ.

BETONICA. (Betony.)

Generic Character. *Calyx* with ten ribs, teeth equal and with a long point. *Corolla* with the tube round, and projecting out.

Betonica officinalis. (Plate XVIII. Fig. 69.) *Wood*

Betony. Nearly two feet high, with few leaves on the stalks, the lower ones rather heart-shaped, on long footstalks, upper, not stalked, and oblong. Spikes of flowers oblong and thick, formed of many purple flowers, in whorls, close to each other; when the flower has faded, the points of the calyx show conspicuously. It is frequent in woods and thickets, showing its heads of purple flowers above the underwood.

DIDYNAMIA. GYMNOSPERMIA.

COROLLIFLORÆ. LAMIACEÆ.

STACHYS. (WOUNDWORT.)*

Generic Character. *Calyx* rather bell-shaped, with ten ribs and five teeth. *Corolla* with the tube as long as the calyx. Upper lip mostly arched, lower three-lobed.

STACHYS SYLVATICA. ((Plate XVIII. Fig. 70.) *Hedge Woundwort.* Woods and shady places produce this plant, which stands two or three feet high. Leaves heart-shaped, and tapering to a point, stalked, and deeply cut at the edges; there are about six rather large purple flowers in a whorl; whole plant very downy.

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* This curious name probably arose from the plant being used to stop effusions of blood.

STACHYS PALUSTRIS. *Marsh Woundwort.* This species grows in more marshy places than the last, and on the banks of rivers. It is tall, its leaves are long and narrow, and not stalked. Flowers six or more in a whorl. The difference in the leaves distinguishes this from the last.

STACHYS ARVENSIS. *Corn Woundwort.* Frequent in dry corn-fields, and distinguished by its small size, weak stems, small and obtuse, leaves generally stalked, and pale purple corollas, which are scarcely longer than the calyx.

DIDYNAMIA. GYMNOSPERMIA.

COROLLIFLORÆ. LAMIACEÆ.

NEPETA. (CATMINT.)

Generic Character. *Calyx* tubular, with about fifteen ribs, five-toothed. *Corolla* with the tube growing beyond the calyx.

NEPETA CATARIA. *Catmint.* A very pretty, though not very common plant, requiring a chalky or gravelly soil. The stem is two or three feet high, very downy, as well as the heart-shaped leaves, and whitish. Flowers very many together in clusters, white, tinged, and spotted with rose-colour. Stamens red.

DIDYNAMIA. GYMNOSPERMIA.

COROLLIFLORÆ. LAMIACEÆ.

PRUNELLA. (SELF-HEAL.)

Generic Character. *Calyx* ovate, upper lip three-toothed, lower one divided into two. *Corolla* with the upper lip nearly entire, and arched, lower one three-ribbed.

PRUNELLA VULGARIS. *Self-heal.* Common in moist and barren pastures, growing close on the ground, leaves oblong, and stalked. Flowers violet-blue, very thickly whorled, so as to form an oblong spike, with a pair of leaves at the base, and a pair of broad, heart-shaped bracteas beneath each whorl.

DIDYNAMIA. GYMNOSPERMIA.

COROLLIFLORÆ. LAMIACEÆ.

SCUTELLARIA. (SKULL-CAP.)

Generic Character. *Calyx* broad, its two equal lips closing after flowering. *Corolla* much pushed out from the calyx, upper lip straight and entire, lower one divided into three.

SCUTELLARIA GALERICULATA. (Plate XVIII. Fig. 71.) *Common Skull-cap.* A very pretty genus, having two species of delicate plants, which must be sought for in watery places. The first is the most common, found on banks of rivers and lakes, especially in stony places. It is eight or ten inches high, the leaves long, narrow, cut at the edge, and smaller ones mixed with the flowers which are rather large, bright blue, and downy, the tube being long, and projecting much beyond the small calyx. When the corolla has fallen off, the four seeds at the bottom of the cup or calyx would be exposed to the weather, but the latter continues to grow, so that it fills up the opening, and thus effectually secures the seeds from harm, but when they are ripe, the lid rises and they fall out.

SCUTELLARIA MINOR. *Lesser Skull-cap.* Moist heathy places, and by the sides of lakes. A diminutive plant not above six inches high, leaves oblong, and on very short stalks, lower broader than the upper ones. Flowers pale reddish, or nearly white, in pairs, small and very pretty.

DIDYNAMIA. ANGIOSPERMIA.
COROLLIFLORÆ. SCROPHULARIACEÆ.

BARTSIA. (BARTSIA.)

Generic Character. *Calyx* tubular, mostly coloured. *Corolla* with a contracted mouth, upper lip arched, lower of three lobes.

BARTSIA ODONTITIS. *Red Bartsia.* A very pretty plant, found in corn-fields, and waste places, with many long, rather drooping spikes of reddish flowers, which are only placed on one side of the stalk; leaves long, narrow, and cut at the edges.

DIDYNAMIA. ANGIOSPERMIA.
COROLLIFLORÆ. SCROPHULARIACEÆ.

EUPHRASIA. (EYE-BRIGHT.)

Generic Character. *Calyx* tubular. Upper lip of the *corolla* divided, lower one of three nearly equal lobes.

EUPHRASIA OFFICINALIS. *Common Eye-bright.* The English name is derived from its being used by country people for diseases of the eye. It is a delicate little plant, abundant on mountains, and dry pastures. The flowers are extremely pretty, bright and attractive, though the plant is so lowly and humble. They are white or reddish, streaked with purple, and appear towards the ends of the branches, where they are often crowded. Its size differs much according to the situation.

DIDYNAMIA. ANGIOSPERMIA.

COROLLIFLORÆ. SCROPHULARIACEÆ.

MELAMPYRUM. (COW-WHEAT.)

Generic Character. *Calyx* tubular. Upper lip of the *corolla* compressed at the sides, turned back at the edge, lower lip three-lobed.

MELAMPYRUM PRATENSE. *Common yellow Cow-wheat.* A curious straggling plant, found commonly in groves and thickets, one foot or more high, slender, opposite branches, leaves in distant pairs, long and narrow. Flowers large, pale yellow, the corolla being four times as long as the calyx, the lower lip protruding out. The whole plant turns black when dry. There are other species, but they are rare.

DIDYNAMIA. ANGIOSPERMIA.

COROLLIFLORÆ. SCROPHULARIACEÆ.

ANTIRRHINUM. (SNAP-DRAGON.)

Generic Character. *Calyx* divided into five. *Corolla* with the lips closed, and looking like a face, the lower part enlarged, but not spurred.

ANTIRRHINUM MAJUS. *Great Snap-dragon.* Flowers very large, generally purplish red, but often whitish, making it a conspicuous object on old walls and in chalk pits. It is from one to two feet high, with narrow-leaves; and the blossom in a bunch at the top, and of very curious construction, the lips of the corolla closing tightly, and fitting most wonderfully, though the bee manages to open them, and extract the sweets; smaller insects have also strength to force a passage, but as the inner part is covered with a woolly substance, they cannot open it from within, and remain prisoners, only escaping by eating a hole in their prison walls. The Snap-dragon of our gardens is similarly constructed.

ANTIRRHINUM ORONTIUM. *Lesser Snap-dragon.* This is a smaller plant, found in corn-fields, especially in the south, the flowers pink, few in number, and remarkable for the great length of the divisions of the calyx, particularly after the corolla is faded. Leaves long and narrow. It is often in flower till October.

Didynamia. Angiospermia.

Corollifloræ. Scrophulariaceæ.

LINARIA. (Toad-flax.)

Generic Character. See page 153.

Linaria elatine. *Sharp-pointed Fluellen* or *Toad-flax.* If the *Linaria Cymbalaria* has been found (see p. 153.) the rest of the genus will be easily recognised. The three species mentioned now, are not very common, principally found in the east, and south-west of England, the present being the most distributed. It is a very interesting little plant, with fine, trailing branches, spreading in all directions, broad leaves, most of them with two points near the stalk, and one at the top. Flowers on long hair-like stalks, small, yellowish, upper lip purple. The next,

Linaria spuria, *Round-leaved Fluellen,* is small, though larger than *L. elatine,* the leaves rounder and downy, mostly alternate. Flowers with a large calyx. Branches trailing, growing in sandy corn-fields.

Linaria minor. *Least Toad-flax.* This differs principally from the two mentioned above, by not being procumbent, and in the leaves, which are long, narrow, and obtuse, stem much branched, though not above six or eight inches high. Flowers small, purple, and yellow, stalked, and growing singly. Sandy fields are the places in which it is found.

Didynamia. Angiospermia.

Corollifloræ. Scrophulariaceæ.

SCROPHULARIA. (Figwort.)

Generic Character. *Calyx* five-lobed. *Corolla* rather globular, the mouth contracted, with two small lips.

Scrophularia nodosa. *Knotted Figwort.* A frequent plant in ditches and woods. The stem is square, two or three feet high, leaves triangular, sharp, and doubly cut at the edges. Flowers in a loose bunch, erect, small, and of a globular form, greenish purple, and not very conspicuous.

Didynamia. Angiospermia.

Corollifloræ. Verbenaceæ.

VERBENA. (Vervain.)

Generic Character. *Calyx* tubular, with five teeth, one of them shorter than the rest. *Corolla* tubular and five-cleft.

Verbena officinalis. *Common Vervain.* A common plant on road-sides and waste places, especially near towns and villages. The stem is erect, hairy, leaves rough, long and narrow, cut at the edge, sometimes divided into three deep segments. Spikes of flowers long, with the blossom small, distant, of a lilac hue. It is a curious circumstance that so insignificant a plant should obtain so much celebrity as this did in former times. Most nations venerate it, the ancients had feasts called Verbenalia, at which time the temples were strewed with this plant, and no incantation was considered perfect without it. The priests of Rome, Gaul, and Greece, used it, and even the Magi of India, and Druids of Britain. In some Welsh counties the plant is still known, by the name of "Enchanter's plant." It seems to have been thought useful in curing bites of various kinds, &c., &c. Gerarde, the old botanist, says, after speaking of its virtues, "Many odde old wives' fables are written of Vervaine, tending to witchcraft and sorcerie, which you may read elsewhere, for I am not willing to trouble you with reporting such trifles as honest ears abhorre to hear." Our village doctresses still make use of Vervain tea as a strengthening medicine.

TETRADYNAMIA. SILICULOSA.
THALAMIFLORÆ. CRUCIFERÆ.

THLASPI. (PENNY-CRESS.)

Generic Character. See page 103.

THLASPI ARVENSE. *Mithridate mustard, or Penny-cress.* Not common everywhere, and found in fields generally. In the sandy soil of Sussex it is tolerably frequent, and attracts notice by its curiously winged seed-pouches, which are roundish, having a flat broad wing on each side not united at the top. The flowers are very small and white. Leaves oblong, arrow-shaped, toothed and smooth. Stem about a foot high, and branched.

TETRADYNAMIA. SILIQUOSA.

THALAMIFLORÆ. CRUCIFERÆ.

NASTURTIUM. (CRESS.)

Generic Character. *Pod* nearly cylindrical, sometimes long, at others short, seeds in two irregular rows. *Calyx* spreading.

NASTURTIUM OFFICINALE. *Water-cress.* This well-known plant, and wholesome salad, is frequent in brooks and rivulets. Its lower leaves are large, consisting of five or seven distant leaflets, the terminal one being the largest and roundish. Flowers small, and white, pods about an inch long.

NASTURTIUM SYLVESTRE. *Creeping Nasturtium.* Not so common, but growing in the same localities. It has yellow flowers, the pod is shorter, thicker, and curved a little upwards.

TETRADYNAMIA. SILIQUOSA.

THALAMIFLORÆ. CRUCIFERÆ.

SISYMBRIUM. (HEDGE MUSTARD.)

Generic Character. *Pod* rounded or angular. *Calyx* spreading, sometimes erect.

SISYMBRIUM OFFICINALE. *Common hedge Mustard.* Plentiful in waste places, and by way-sides. One to two feet high, with deeply cut leaves, the terminal lobe being very large, and the rest pointing rather towards the stalk, which forms what is called a *runcinate* leaf. The flowers are yellow, very small, and the pods closely pressed to the main stalk.

SISYMBRIUM IRIO. *Broad Hedge Mustard,* or *London Rocket.* In waste ground, chiefly about London, in which city, it covered the ground immediately after the great fire, but how it should have spread to so great a degree, in a short time, naturalists have not been able to explain. Its leaves are runcinate, as well as the above. Flowers yellow, pods erect, and two inches long, which make it easily distinguished.

SISYMBRIUM SOPHIA. *Fine-leaved Hedge Mustard.* Leaves doubly divided, slightly hairy. Petals shorter than the calyx, flowers small and yellow. Pods very slender, erect, and a little spreading from the stalk. It is a frequent species in waste places.

DIADELPHIA. DECANDRIA.
CALYCIFLORÆ. FABACEÆ.

GENISTA. (GREEN-WEED.)

Generic Character. See page 161.

GENISTA TINCTORIA. *Dyers' Green-weed,* or *Wood waxen.* A much larger species than the two mentioned in May, frequent in thickets and borders of fields. The stem has no thorns, and stands about two feet high, with narrow, smooth, rather distant leaves. Flowers pale yellow, in a small spike, foot-stalk very short, with a small leaf at the base. Used in dyeing yellow. Often giving a bitter taste to milk, when cows feed upon it, so that it is not a desirable plant in pastures.

DIADELPHIA. DECANDRIA.
CALYCIFLORÆ. FABACEÆ.

LATHYRUS. (VETCHLING, EVERLASTING PEA.)

Generic Character. *Calyx* with the opening oblique, its upper segments shortest. *Style,* which is afterwards the pod, downy and broad at the top. *Leaves* with tendrils.

LATHYRUS PRATENSIS. *Meadow Vetchling.* Found frequently in moist meadows and pastures. Stems from two to three feet long, climbing. Groups of yellow flowers from two to eight in number. Two long, narrow leaflets, with the tendril from the perfect leaf, and the stipules or leaflets at the bottom are arrow-shaped and large. Cattle are said to be fond of this plant.

LATHYRUS SYLVESTRIS. *Narrow-leaved Everlasting Pea.* Found in the middle and south of England, in thickets and hedges. In the Isle of Wight, in profusion, climbing in all directions over the bushes, and covering them with its handsome blossoms, which are large, greenish, with purple veins, four or five together. Leaves composed of a tendril and a pair of leaflets, two or three inches long. Stem five or six feet in length, with broad wings, or flat pieces on each side, as may be observed in the garden Everlasting Pea. Altogether a very handsome plant.

DIADELPHIA. DECANDRIA.
CALYCIFLORÆ. FABACEÆ.

VICIA. (VETCH.)

Generic Character. See p. 241.

VICIA CRACCA. *Tufted Vetch.* This species differs from those found last month, by having *many* flowers grouped together instead of only one or two, or at most four, so that it will be distinguished at a glance, by its numerous, crowded, drooping bunch of flowers, of a fine blueish-purple colour. It is a very climbing plant, and frequent in bushy places. The leaf has many long, narrow leaflets.

DIADELPHIA. DECANDRIA.

CALYCIFLORÆ. FABACEÆ.

LOTUS. (BIRD'S-FOOT TREFOIL.)

Generic Character. *Calyx* tubular, five-cleft. *Seed-vessel* cylindrical, spongy within, and imperfectly divided by cross partitions.

LOTUS CORNICULATUS. *Common Bird's-foot Trefoil.* This is a common plant everywhere. Its pretty heads of eight or ten bright yellow, and often red or deep orange flowers just rise above the grass, for the plant is very procumbent, and lies close to the ground. The leaves are formed of three oval leaflets. Another species, which greatly resembles it, but having a more erect stem, is the

LOTUS MAJOR. *Narrow-leaved Bird's-foot Trefoil.* Its flowers are also on long foot-stalks, but its place of growth is different, the former growing on dry soil, and the latter on the sides of ditches, and in moist bushy places.

POLYADELPHIA. POLYANDRIA.

THALAMIFLORÆ. HYPERICACEÆ.

HYPERICUM. (ST. JOHN'S WORT.)

Generic Charcter. *Calyx* with five leaves, below the seed-vessel, five *petals.* *Filaments* united at the base into three or five sets.

A very pretty genus, (and the only one in the class *Polyadelphia*,) first showing its bright yellow flowers in this month. There are eleven species known, of which I shall mention the most common.

HYPERICUM CALYCINUM. *Large-flowered St. John's-wort.* I mention this, not that it is commonly found wild, but because being cultivated in shrubberies, it may therefore be known to the reader, and thus the character of the genus be impressed on the mind. Its flowers are very large and solitary, and of a beautiful yellow. The five sets of stamens in the centre make it very handsome. The leaves are oblong, and the stem shrubby, branched and square.

HYPERICUM QUADRANGULUM. *Square-stalked St. John's-wort.* Frequent in moist pastures, sides of ditches and rivulets. Stem herbaceous, four-angled, somewhat branched, leaves oval, with transparent dots seen when held to the light. Calyx leaves, long and narrow, flowers yellow, in a bunch at the top. Stem from one to two feet high.

HYPERICUM PERFORATUM. *Common perforated St. John's-wort.* This species, like the last, has transparent dots on its leaves, but it differs in having a two-sided stem, and minute black spots on the calyx, corolla, and often on the leaves. It is about two feet high, and its bright yellow flowers on the top of the stalk are conspicuous in the woods, thickets, and hedges where it grows.

HYPERICUM HUMIFUSUM. *Trailing St. John's-wort.* This is well named "trailing," for it lies flat on the ground, spreading out its delicate branches all round the root. Its small flowers are very pretty, and it is not uncommon in sandy and gravelly soils, or on stone walls. The corolla and calyx are spotted with black like the last.

Syngenesia. Æqualis.

Corolliflloræ. Asteraceæ.

CICHORIUM. (Wild Succory.)

Generic Character. *Involucre* of eight scales, surrounded by five smaller ones at the base. Feather of the *seeds* scaly, shorter than the seed, and having no stalk.

Cichorium Intybus. *Wild Succory.* Chiefly confined to a light soil, or one of a gravelly or chalky nature. It is a conspicuous plant when in blossom, as its flowers are of a bright blue, large, and rayed like a star, standing on the stalk in pairs, and very numerous. The stem is from one to two feet high, erect, and branched, the leaves are divided, the lower divisions turning towards the stalk. This plant might be termed the poor man's clock, for it opens its blossoms about eight in the morning, and closes them at four, when the sun is declining. It is said that the Egyptians eat great quantities of it.

Syngenesia. Æqualis.

Corollifloræ. Asteraceæ.

ARCTIUM. (Burdock.)

Generic Character. *Involucre* globular; each of the scales of which it is composed have a bent hook at the extremity.

Arctium Lappa. *Common Burdock.* Common on waste places and way-sides, growing three or four feet high, with very large lower leaves, stalked and heart-shaped. The flowers are purple, and the calyx or involucre covered with hooked bristles, which fasten themselves to clothes and the coats of animals, and serve to distribute the seed from the parent stem. Small leaves are scattered amongst the flowers on the upper branches.

Syngenesia. Æqualis.

Corollifloræ. Asteraceæ.

CARDUUS (Thistle), and CNICUS, (Plume Thistle,)

Are two genera very difficult to simplify, and the young student must be satisfied with a general description, so as to have an idea of the genera without entering into specific distinctions. The difference lies in the pappus, or feathery wing attached to the seed, being in *Carduus* rough, and in *Cnidus* feathery. They have both a swollen *involucre,* prickly, with spinous scales, *leaves* and *stalks* more or less covered with prickles and spines at the edges; some are particularly so, and extremely difficult to be gathered, as the Cnicus Eriophorus, *Woolly-headed Plume Thistle,* a large handsome species, found on limestone soil. They generally grow from one to several feet high, but one species, *Cnicus acaulis*, does not raise itself from the ground, its flower and leaves being stemless. They are found on waste barren ground, and the seeds which are very numerous, are much eaten by birds, particularly the goldfinch and linnet.

SYNGENESIA. ÆQUALIS.

COROLLIFLORÆ. ASTERACEÆ.

EUPATORIUM. (HEMP AGRIMONY.)

Generic Character. *Involucre* oblong. *Florets* few. *Seed-vessel* with a rough or feathery awn.

EUPATORIUM CANNABINUM. *Hemp agrimony.* At first view this plant would scarcely be supposed to belong to this class, but a near examination will prove that it is a compound flower. It grows in watery places, and banks of rivers, from three to four feet high, branched, with large, opposite leaves, divided into three or five parts, each part being long, narrow, and deeply cut at the edges, the middle lobe being the largest. Flowers very numerous, small, pale reddish-purple, in a thick crowded head, something similar to the flower of the *valerian*. It was formerly used medicinally.

SYNGENESIA. SUPERFLUA.

COROLLIFLORÆ. ASTERACEÆ.

GNAPHALIUM. (CUDWEED.)

Generic Character. *Involucre* often with coloured membranous scales. *Seed-vessel* rough or feathery. *Leaves* all clothed with a white, soft down or wool.

This is a curious genus of plants; some of them greatly resemble the garden flowers called "Everlasting," and the leaves are very white, from a soft down which covers them. The flower we call "Everlasting," and the French "*L' immortelle*," a native of Africa, is a species of this genus, its botanic name is "*Gnaphalium orientale.*" We have one species, the flower of which almost exactly resembles it, the *G. margaritaceum*, but it is not common.

GNAPHALIUM DIOICUM. *Mountain Cudweed.* Abundant on mountain heaths, but not common in other places. It is a pretty species, the flowering stem about four inches high, and bearing several heads of flowers, the scales of which are often rose-coloured. The leaves are mostly near the root, small, and very white beneath.

GNAPHALIUM ULIGINOSUM. *Marsh Cudweed.* Found commonly in sandy and wet places, and where water usually stands. Differing in size, stem much branched, the leaves long and narrow, and both very much covered with white down. Flowers small, in crowded clusters at the end of the branches, amongst the leaves. Scales of the involucre yellowish brown, shining and smooth.

GNAPHALIUM MINIMUM. *Least Cudweed.* Frequent in dry and gravelly places. A small species about six inches high, very slender, erect and branched. Leaves small, narrow, acute, and soft with down; flowers scattered on the upper stems, small, and without stalks.

GNAPHALIUM GERMANICUM. *Common Cudweed.* Sandy and gravelly places, and dry pastures, produce this curious plant; its stem is about eight inches high, erect, clothed with downy, narrow leaves, and terminated by a globular head of small flowers, from beneath which grow other branches terminated in the same way, which may again be divided. By the old botanists this plant was called *Herba impia,* from its appearing as if the offspring were undutifully exalting themselves above the parents. One or two other species flower next month.

SYNGENESIA. SUPERFLUA.

COROLLIFLORÆ. ASTERACEÆ.

SENECIO. (GROUNDSEL.)

Generic Character. See page 65.

SENECIO JACOBEA. *Common Ragwort.* A large common plant by way-sides and waste places, standing two or three feet high, with a branched stem, and much divided leaves. Flowers large, golden-yellow, in a bunch. This species is often in flower till November.

SENECIO AQUATICUS. *Marsh Ragwort.* Growing in wet places, and by the sides of rivers and ditches. Flowers larger, and the leaves divided, but less so than the last.

SYNGENESIA. SUPERFLUA.

COROLLIFLORÆ. ASTERACEÆ.

ACHILLÆA. (YARROW.)

Generic Character. *Involucre* imbricated. From five to ten *florets* in the ray.

These plants are very much seen in pastures and way-sides, the first and most common is in flower nearly all the summer.

ACHILLÆA MILLEFOLIUM. *Common Yarrow,* or *Milfoil.* Its specific name is derived from its leaves, which seem divided into a thousand parts; they are soft, as well as the stalk, which grows a foot or more high, and is crowned at the top by bunches of small, white, or sometimes rose-coloured flowers.

ACHILLÆA PTARMICA. *Sneezewort Yarrow.* Less common. Stem from one to three feet high, erect, and clothed with leaves, which are long and narrow, pointed, and finely cut at the edges; the flowers are white, both ray and disc. When dried and made into a powder, it is employed to excite sneezing.

SYNGENESIA. FRUSTRANIA.
COROLLIFLORÆ. ASTERACEÆ.

CENTAUREA. (KNAPWEED, BLUE-BOTTLE.)

Generic Character. *Involucre* imbricated. *Corollas* of the ray funnel-shaped, longer than those of the centre.

CENTAUREA CYANUS. *Corn Blue-bottle.* This well known and beautiful flower is a universal favourite, and deservedly so, not only from its form, but its colour, which contrasts so well with the ripe corn amongst which it grows. It stands two or three feet high, the stem and underside of the leaves covered with loose cottony down. The leaves are long and narrow. Flowers large, handsome; the centre florets small, and purple, those of the ray few, larger, spreading, and of a beautiful blue colour. Scales of the involucre, or calyx, greenish, the margins brown.

CENTAUREA NIGRA. *Black Knapweed.* A common species in fields, with a curious involucre, each little scale being fringed with dark, spreading teeth, like hairs, forming a beautiful object viewed through a glass. The florets are numerous, and purple. It is tall, being generally about three feet high; upper leaves long and narrow; lower toothed, and slightly divided. Cattle do not eat it.

CENTAUREA SCABIOSA. *Greater Knapweed.* Flowers much larger than the last, having a globular calyx with fringed scales, but the hairs not so long; florets purple, and very numerous. Stem two or three feet high, erect, and much branched, leaves rather rough, divided, each part being long, narrow, and acute.

MONŒCIA. MONANDRIA.

MONOCHLAMYDEÆ. EUPHORBIACEÆ.

EUPHORBIA. (SPURGE.)

Generic Character. See page 69.

EUPHORBIA HELIOSCOPIA. *Sun Spurge.* Well known to country people from its milky juice, which is said to destroy warts; growing abundantly in waste, and also cultivated ground. The umbel of green flowers has five principal branches, the bracteas, or large leaves under the blossom, are membranaceous, and the edges finely cut at the upper part.

EUPHORBIA EXIGUA. *Dwarf Spurge.* A small species frequent in corn-fields in a light soil. The umbel has only three principal branches, leaves long and narrow. It is not above six inches high, branched at the base. If one species of this genus is discovered, the rest will be easily known, the general characteristics being alike.

MONŒCIA. TRIANDRIA.

PETALOIDEÆ. TYPHACEÆ.

TYPHA. (CAT'S-TAIL, OR REEDMACE.)

Generic Character. *Flowers* collected into a very thick cylindrical spike or catkin.

TYPHA LATIFOLIA. *Great Cat's-tail,* or *Reedmace.* A very striking plant, sometimes six feet high, found on the borders of ponds and lakes. The leaves are very long, in some specimens nearly an inch broad, and the spike of flowers growing about a foot in length, of a greenish brown colour. When dried they make a good hat brush, and, I believe, are used by the poor for that purpose, and also for brushing velvet, for which I should think them very suitable. The leaves are used for thatching, and in the manufacture of baskets and mats. There is a smaller species, *T. angustifolia,* with much narrower leaves and catkins, not so common as the last.

MONŒCIA. TRIANDRIA.

PETALOIDEÆ. TYPHACEÆ.

SPARGANIUM. (BUR-REED.)

Generic Character. *Flowers* in spherical heads, and very thick. *Leaves* long and narrow.

SPARGANIUM RAMOSUM. *Branched Bur-reed.* A curious plant, growing by ditches, lakes, &c. Stem more than two feet high, with a few sword-shaped leaves, the lower ones triangular at the base. Flowers forming a round head, and in seed becoming as large as a marble, divided into a number of little seed-vessels. The flower is brown, and the seed-vessels green. There is a smaller species, *Typha simplex*, or unbranched, upright Bur-reed, with pale yellow flowers, growing in ditches and stagnant water.

MONŒCIA. TETRANDRIA.

MONOCHLAMYDÆ. URTICACEÆ.

URTICA. (NETTLE.)

Generic Character. Barren flower. *Calyx* four-leaved. *Stamens* four. Fertile flowers forming a head.

I need only mention this plant to recall it to the mind of even those who have never thought of making plants a study. I will just observe that there are three species,

URTICA DIOICA, *Great*, or *Common Nettle*, which, though often a despised plant, and feared for its sting, is useful in several ways. In Scotland the young tops are boiled and eaten by the poor, and the root, boiled with alum, dyes yarn of a yellow colour, and a kind of hemp is made from the fibres. This common plant is furnished with a most wonderful contrivance in its sting, which points out the perfect works of the Almighty, and ought to fill us with feelings of wonder, that so mean a plant as we deem it, should thus be furnished with such powerful means of defence. The hairs, by which the leaves are covered, are of the same construction as the sting of the bee, first penetrating the skin, and then infusing a poisonous liquid which causes all the tingling and annoyance.

URTICA URENS, *Small Nettle,* is frequent in waste places, has opposite leaves, and the clusters of green flowers more simple than the larger species. The most venomous of our nettles is the

URTICA PILULIFERA, *Roman Nettle,* which grows under walls and among rubbish, generally near the sea. Its flowers are in globular heads, instead of in long spikes like the other species.

MONŒCIA. POLYANDRIA.

MONOCHLAMYDÆ. SANGUISORBEÆ.

POTERIUM. (SALAD BURNET.)

Generic Character. *Flowers* collected into a head, with three or four bracteas at the base of each. *Stamens* very numerous and conspicuous.

POTERIUM SANGUISORBA. *Common Salad Burnet.* A very pretty plant growing in chalky pastures, from one to two feet high, with beautiful leaves, composed of many, little, round, deeply cut leaflets ; flowers in a head, of a dull purple colour, and the stamens showing conspicuously. It derives its name of *Salad Burnet,* from the leaves smelling and tasting like cucumber, and it is eaten also as a salad.

DIŒCIA. PENTANDRIA.
MONOCLAMYDEÆ. URTIACEÆ.

HUMULUS. (HOP.)

Generic Character. Barren flower, having five leaves. Fertile. Scales of the catkin large, concave, entire, each having a single flower.

HUMULUS LUPULUS. *Common Hop.* Another well known plant, and scarcely considered a native, though it is now frequently found in hedges and thickets. Its long, climbing stems, handsome leaves, and pretty heads of greenish flowers soon attract notice. It is the species used in beer.

CHAPTER VIII.

AUGUST.

The labour, or rather the pleasure of the young botanist is in this month, beginning to decline in one respect, for the number of new plants in flower is lessening considerably. The heat of July has brought so many plants to perfection, that the following month seems bare in comparison. The July flowers, however, extend their beauties over a considerable space of time, so that the barrenness of the present season is only in new productions. The rich and glowing scenes of summer are now spread abroad in all their attractive beauty; fields of waving and ripe corn, trees in full leaf, orchards producing almost every tint in their ripe fruit, and the hedges lively with the variety of wild flowers, form altogether a lovely picture, and ought to raise in our hearts grateful feelings to Providence for all these beauties and blessings. But amidst this rich scene of vegetation, the idea of decay intrudes itself, and we see here and there many plants beginning to fade and wither, having fulfilled the objects for which they were created. Decay approaches, and now the order is reversed, and the hope of spring, and the pride of summer must be cut off; but, happily, the decline of the year is so gradual, that it is not oppressive to the spirits, though occasionally a little regret may be felt at the loss of many of our summer favourites, which we see fading around us.

I trust by this time many plants have become favourites with my young friends; familiarity with their names and properties is sure to attach them to these beautiful productions, and those who before thought a country walk a dull thing, will now only have to gather a flower and they have a subject of deep interest immediately, either in discovering its class, or situation in the natural system, before referring to the book for its name and habits, or, if known, in thinking over its peculiarities. There is no such thing as a dull walk in the country to those whose attention has been turned to the study of nature; and what study can be more elevating to the mind, or softening to the disposition, than those subjects which make us familiar with the works of God.

PENTANDRIA. DIGYNIA.
CALYCIFLORÆ. APIACEÆ.

APIUM. (CELERY.)

Generic Character. No *calyx.* *Petals* roundish, entire with a small point. *Fruit* roundish, contracted at the sides.

APIUM GRAVEOLENS. *Smallage* or *Wild Celery.* Not unfrequent in marshy places near the sea, plentiful by streams running into the ocean in the Isle of Wight. It is the origin of our garden Celery. The leaves are divided into three, with large wedge-shaped leaflets. It is an umbelliferous plant, the umbels generally having no stalk, and small.

PENTANDRIA. DIGYNIA.
CALYCIFLORÆ. APIACEÆ.

HERACLEUM. (COW PARSNIP.)

Generic Character. *Calyx* of five teeth. *Petals* rather heart-shaped. The lower or universal *involucre* falling off early, the upper of many leaves.

HERACLEUM SPONDYLIUM. *Common Cow-parsnip.* Frequent in hedges, pastures and bushy places. A large coarse weed four or five feet high, leaves divided, rough, hairy, leaflets also divided, the last into three distinct parts, and all cut at the edges; where the leaf joins the main stalk there is a large swollen sheath. Umbels rather large, flowers with unequal petals.

PENTANDRIA. DIGYNIA.
CALYCIFLORÆ. APIACEÆ.

DAUCUS. (CARROT.)

Generic Character. *Calyx* of five teeth. *Petals* heart-shaped. Many leaves to both the *involucres.*

DAUCUS CAROTA. *Wild Carrot.* Common in pastures and borders of fields, and the origin of our garden Carrot. Leaves very much divided and the leaflets also. The umbels of flowers are remarkable for the large involucres, which are found of many long narrow leaves.

PENTANDRIA. DIGYNIA.

MONOCHLAMYDÆ. CHENOPODIACEÆ.

CHENOPODIUM. (GOOSEFOOT.)

A singular genus of plants, not beautiful, but useful for food in some counties, where they are eaten like Spinach, and in others burned with marine plants for the soda found in the ashes. They are not striking plants, as their flowers are green and insignificant; the leaves too are often of a whitish-green, and several of them are low trailing plants, the rest tall. They are common on waste places and under walls; but I must refer aspiring botanists to larger works on the subject, for the species are so similar that they are difficult to describe in language sufficiently simple for beginners.

PENTANDRIA. TETRAGYNIA.

THALAMIFLORÆ. HYPERICACEÆ.

PARNASSIA. (GRASS OF PARNASSUS.)

Generic Character. *Calyx* deeply five-cleft. *Petals* five. *Nectaries* five, heart-shaped, fringed with globular-headed filaments.

Parnassia palustris. *Common Grass of Parnassus.* This is one of our prettiest plants, blooming in marshy ground and wet places, more frequent in the north than the south. From one to eight inches high according to the soil, with handsome large yellowish-white flowers, with five nectaries opposite the petals, fringed with white hairs along the margin, which are terminated by a yellow pellucid gland. Sowerby says, that the seed of this plant is formed "by one of the stamens at a time coming over the stigma, and retiring again as soon as it has shed its pollen. Its place is then supplied by another, till all have presented themselves in turn, when the stigma closes. Sometimes two come together or nearly so." Leaves mostly at the root, heart-shaped on long foot-stalks, excepting one on the stem which has no stalk. The petals are prettily veined.

OCTANDRIA. TRIGYNIA.

MONOCHLAMYDÆ. POLYGONACEÆ.

POLYGONUM. (PERSICARIA.)

Generic Character. See page 217.

Polygonum persicaria. *Spotted Persicaria.* Very common on moist ground and waste places, and an exceedingly pretty species. The stems are erect and branched, one or two feet high, with long narrow leaves often spotted with dark marks. Spikes of rose-coloured flowers close together, forming many pretty bunches.

Polygonum lapathifolium. *Pale-flowered Persicaria.* Frequent in fields and on way-sides. The spikes are oblong, and much paler in colour than the last, pale green or almost white. The leaves larger, oval and long with short stalks. Sometimes the main stalk is spotted.

Polygonum Hydropiper. *Biting Persicaria.* This is distinguished by its many long, slender and drooping spikes of reddish flowers. Leaves long and narrow, waved, and unspotted. It is frequent by lakes and ditches, sometimes growing as high as three feet, but in most situations it is smaller.

Didynamia. Gymnospermia.

Corollifloræ. Lamiaceæ.

MENTHA. (Mint.)

Generic Character. *Calyx* equal, five-toothed, the mouth naked or hairy. *Corolla* nearly regular, divided into four, tube very short.

Most of the species of this genus may be known by their strong scent, which resembles that of *Mentha viridis,* the common Mint of the garden. They are handsome, and grow principally in watery places.

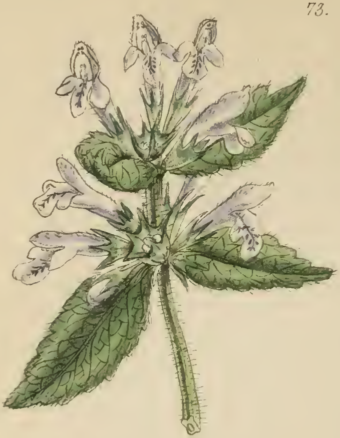
MENTHA SYLVESTRIS. *Horse Mint.* Common in England on damp ground, and by the sides of rivulets. Leaves oblong, very acute, unequally cut at the edges, downy, and hoary underneath. Spikes of flowers purple, with small coloured leaves under them, and the calyx very hairy.

MENTHA HIRSUTA. *Hairy Mint.* Frequent on the banks of rivers and in marshes. A handsome plant, but varying much; sometimes the pretty lilac flowers are in a head, sometimes whorled, and at others forming a spike. The leaves are heart-shaped, cut at the edge, hairy and stalked, and often much crisped. Calyx hairy.

MENTHA ARVENSIS. *Corn Mint.* Found in corn-fields, and therefore preferring a drier situation than the other species. The smell is said to be like decayed cheese. The flowers are in whorls, and have a short and bell-shaped calyx clothed with spreading hairs. Leaves hairy, egg-shaped, and cut at the edges.

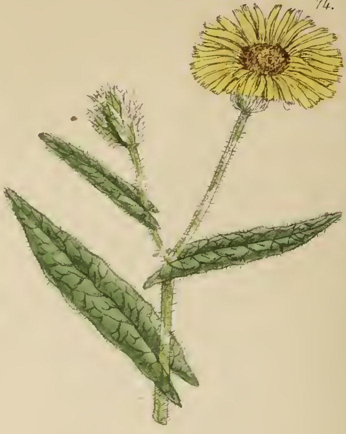
Plate 19.

73.



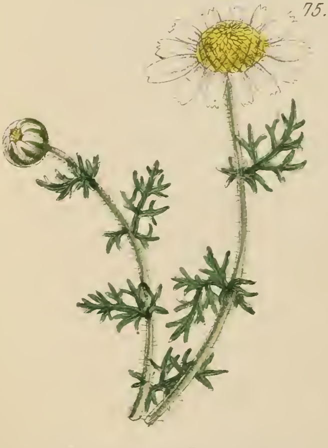
Galeopsis Tetrahit, *Linn.*

74.



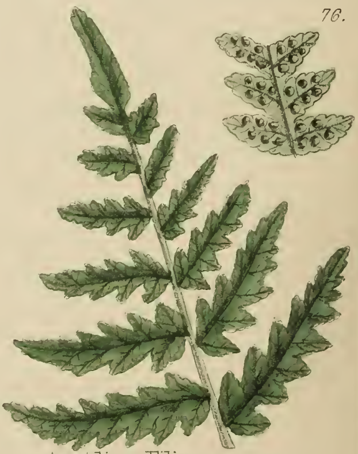
Pulicaria dysenterica, *Gaert.*

75.



Anthemis nobilis, *Linn.*

76.



Aspidium Filix-mas, *Smith.*

Reeve, lith et imp.

MENTHA PULEGIUM. *Penny-royal.* This is the smallest of the genus, and has prostrate stems, and small hairy leaves, which are egg-shaped. Flowers very small, purple, and in whorls among the leaves. Smell strong, and much used in medicine. Common by the margins of brooks, but rare in Scotland.

DIDYNAMIA. GYMNOSPERMIA.

COROLLIFLORÆ. LAMIACEÆ.

GALEOPSIS. (HEMP-NETTLE.)

Generic Character. *Calyx* bell-shaped, five-toothed, points sharp. *Corolla* projecting, the throat inflated, upper lip arched.

GALEOPSIS TETRAHIT. (Plate XIX. Fig. 73.) *Common Hemp-Nettle.* Common in corn-fields and cultivated ground, growing about two feet high, the stem hairy and swollen below the joints. Leaves egg-shaped, hairy, stalked and cut at the edges. Flowers purplish and often white. Points of the calyx very sharp and conspicuous.

GALEOPSIS VILLOSA. *Downy Hemp-Nettle.* A beautiful species found only in sandy corn-fields in Yorkshire, Lancashire, and Nottinghamshire. The flowers are large and of a pale yellow, which at once distinguishes it. The stem is not swollen below the joints; the leaves are oval, long, and narrow, cut at the edges, soft and downy. There is another species,

Galeopsis versicolor, which has yellow flowers also, with a broad purple spot on the lower lip, found in corn-fields in Norfolk.

Didynamia. Gymnospermia.
Corolliflorӕ. Lamiaceӕ.

ACINOS. (Basil Thyme.)

Generic Character. Whorls few-flowered. *Calyx* tubular, and swollen at the base, one side projecting more than the other. *Corolla*, lower lip divided into three.

Acinos vulgaris. *Common Basil Thyme.* A little plant not above eight inches high, found in corn-fields in light soil, and having a fragrant smell. Stem upright, with oblong leaves on short stalks, pointed and cut at the edges. Flowers blueish purple, about six in a whorl. A pretty plant, though insignificant in appearance.

Didynamia. Gymnospermia.

Corollifloræ. Lamiaceæ.

CLINOPODIUM. (Wild bazil.)

Generic Character. Whorls many-flowered, with numerous narrow *bracteas*, forming a sort of involucre. *Calyx* tubular, with thirteen nerves.

Clinopodium vulgare. *Wild Bazil.* Not uncommon on hills and dry bushy places. Stem a foot and a half high, with soft hairs; leaves egg-shaped, cut at the edge, but not very clearly. Flowers in very crowded whorls, large, purple, soft and hairy, and the bracteas like little bristles.

Didynamia. Angiospermia.

Corollifloræ. Scrophulariaceæ.

LINARIA. (Toad-flax.)

Generic Character. See page 153.

Linaria vulgaris. *Yellow Toad-flax.* A common but handsome species, and very conspicuous on the borders of corn-fields and in hedges. Stem erect, about two feet high;

leaves numerous, greyish green, long and narrow, terminating in a spike of large yellow flowers, of two shades, and with a rather long spur. By some people it is called Butter-and-eggs, from its two shades of yellow.

The Dwarf Furze, *Ulex nanus,* may now be found, seeming to take the place of the larger species, which has flowered all the spring. It is very like it, but smaller, with reclining branches, and the brown bracteas at the base of the flowers very minute, and closely pressed to the calyx. See page 65.

SYNGENESIA. ÆQUALIS.

COROLLIFLORÆ. ASTERACEÆ.

HIERACIUM. (HAWK-WEED.)

Generic Character. See page 167.

HIERACIUM UMBELLATUM. *Narrow-leaved Hawk-weed.* Stony, rocky, and heathy places produce this species, which is more easily distinguished than many of this intricate genus; for the yellow flowers form nearly an umbel; that is, the flower-stalks all proceed from the main stalk at nearly the same point. The stem is erect, not branched, and with many long, narrow leaves. There are eighteen species of Hawk-weed.

SYNGENESIA. SUPERFLUA.
COROLLIFLORÆ. ASTERACEÆ.

ARTEMISIA. (WORMWOOD OR SOUTHERN-WOOD.)

Generic Character. *Involucre* ovate or rounded, covered with scales. *Petals* of the ray long and narrow.

Not striking plants, the flowers being of a dingy yellowish brown. There are only two common species.

ARTEMISIA ABSINTHIUM. *Common Wormwood.* In dry soils about villages and waste places. About a foot and a half high, erect, leaves very much divided into narrow pieces, and clothed with short, silky down. Flowers dingy yellow, rather large and drooping, growing in an erect, leafy spike. It is an aromatic plant, and has been much used in medicine.

ARTEMISIA VULGARIS. *Mugwort.* Very common in hedges and waste places, growing three or four feet high, leaves divided, and very white underneath with down. Flowers brown, and in a long spike. *A. campestris* is the species so common in cottage gardens, and known by the name of Southern-wood, or Lad's-love; it is found wild, but very seldom.

SYNGENESIA. SUPERFLUA.

COROLLIFLORÆ. ASTERACEÆ.

ERIGERON. (FLEA-BANE.)

Generic Character. *Involucre* with many long narrow scales. The ray with many little very narrow *flowers* or florets. Centre of a different colour to the ray.

ERIGERON ACRIS. *Blue Flea-bane.* A curious little plant, found on dry ground and walls. It will be known by its numerous feathery seeds, which have the feather or pappus very long and tawny-coloured, so that after the flower is past, the seeds look like little bunches of down. The flower has the centre yellow, and the ray purplish. It grows about a foot or so high, leaves long and narrow, and the whole plant hairy. The plants of this genus were used formerly to drive away fleas.

SYNGENESIA. SUPERFLUA.

COROLLIFLORÆ. ASTERACEÆ.

SOLIDAGO. (GOLDEN-ROD.)

Generic Character. *Involucre* closely imbricated. *Florets* of the ray few and yellow.

SOLIDAGO VIRGAUREA. *Common Golden-rod.* This plant was formerly very much used in medicine, or at least in surgery, for it was supposed to cure wounds, and was brought from abroad in great quantities; but now, I believe, it is not considered efficacious. It is not very common, but often planted in shrubberies, as its bright golden-coloured flowers are showy. It is tall, with long, narrow leaves, the lower ones being broader and stalked. The spikes of flowers erect and crowded. It might be mistaken for the great Rag-wort, *Senecio Jacobea,* but the leaves distinguish it.

SYNGENESIA. SUPERFLUA.

COROLLIFLORÆ. ASTERACEÆ.

PULICARIA. (FLEA-BANE.)

Generic Character. *Involucre* hemispherical, closely covered with narrow scales. *Pappus* double. *Flowers* yellow.

PULICARIA DYSENTERICA. (Plate XIX. Fig. 74.) *Common Flea-bane.* This genus is distinguished from *Erigeron,* by both rays and centre being yellow; but whether this derives its English name from the property of driving away fleas also, I do not know. This species is common in watery places, and its soft, downy leaves and flowers make it very pretty. It grows about a foot high, with many long, narrow leaves clasping the stem, and heart or arrow-shaped at that part, both stem and leaves very woolly. Flowers in small bunches, yellow, and with the ray longer than the centre part. This distinguishes it from

PULICARIA VULGARIS, *Small Flea-bane,* which has the ray scarcely longer than the centre. The leaves are long, half clasping the stem, and narrow at the base. The stem branched and hairy. It is found in moist sandy places where water has stood.

Syngenesia. Superflua.

Corolliflorae. Asteraceæ.

PYRETHRUM. (Feverfew.)

Generic Character. *Involucre* hemispherical, scales with a membranous border. *Flowers* with a yellow disk and white ray. Very like the genus *Chrysanthemum.* *Receptacle* (the part remaining after the seeds are pulled out) naked.

Pyrethrum inodorum. *Corn Feverfew, Scentless Mayweed.* Fields and way-sides common. Flowers large, upon long, naked stalks; ray white and large, disk or centre conical. Leaves divided into many hair-like segments. Stem about a foot high, branched, and spreading. Plant slightly aromatic. It is difficult to distinguish this from the following plant.

Syngenesia. Superflua.

Corolliflorae. Asteraceæ.

ANTHEMIS. (Camomile.)

Generic Character. *Involucre* hemispherical, scales with a membranous border, *Receptacle* convex and chaffy.

Anthemis nobilis. (Plate XIX. Fig. 75.) *Common Camomile.* To most persons the aromatic smell will be sufficient to distinguish the true Camomile, but it differs from the last in the receptacle being chaffy; in the *Feverfew,* that part is naked, so that when the seeds are taken away, the part where they were fixed is left quite clear. This species has leaves very finely divided. Stem about a foot long, procumbent and much branched, each branch terminated by a single flower, the disk yellow, and ray white. The whole plant is very bitter, highly aromatic, and much used in medicine. This quality is strongest in the involucre, which contains an essential oil.

Diœcia. Enneandria.

Monochlamydæ. Euphorbiaceæ.

MERCURIALIS. (Mercury.)

Generic Character. See page 117.

Mercurialis annua. *Annual Mercury.* Not a common plant, but occasionally found about towns and villages in waste places. About a foot high, with opposite branches, (the spring species not being branched,) leaves smooth. Flowers green, in long interrupted spikes.

CRYPTOGAMIA. FILICES.

FOLIACEÆ. FILICES.

ASPIDIUM. (SHIELD-FERN.)

Generic Character. *Seeds* in round, or kidney-shaped spots, arranged on each side the nerve of the leaflet.

ASPIDIUM FILIX MAS. (Plate XIX. Fig. 76.) *Blunt Shield-fern.* To be found in every part of the kingdom, most abundant in rich soils and shady situations. A beautiful species, making its first appearance in May, and proceeding from the ground, rolled up into a circle, then extending itself into the form of a hook, and lastly, expanding into the elegant shape it takes in maturity. Its tall and graceful fronds are arranged in a circle round the root, and droop like feathers. The back of the leaf is covered with the seed in August; but it lasts green through great part of the winter, and often attains the length of two or three feet; the lower part of the stalk is covered with a brown, chaffy substance, which is remarkable in the young leaves. The frond or leaf is beautifully divided down to the main stalk into long, narrow segments, which are again divided into little leaflets, most of which are covered by the kidney-shaped seed cases.

CRYPTOGAMIA. FILICES.

FOLIACEÆ. FILICES.

ASPLENIUM. (SPLEEN-WORT.)

Generic Character. *Seed-cases* oblong, and fixed near the side nerves of the leaflets.

ASPLENIUM FILIX FEMINA. *Lady Fern, Short-fruited Spleen-wort.* This is the most elegant of our Ferns, greatly resembling the last, but much finer in all respects. It is more divided, for each leaflet seems to be again divided, or at least cut at the edges; and the seed-cases are at first oblong kidney-shaped, though, when the seeds are ripening, they look round. It is very delicate, for it soon droops after being gathered. The root is black, fibrous, and wiry. The leaves appear in May, and are very similar to those of the *filix mas.* when they appear, being first in a circle, and then in the shape of a hook, but not so scaly.

ASPLENIUM TRICHOMANES. *Common wall Spleen-wort.*

A most beautiful little Fern, and, fortunately, very common; growing on rocks, banks, walls and ruins. It is first seen in May and June, and soon arrives at maturity; but remains green throughout the winter. The frond is only a few inches in length, and narrow; the stalk is black, shining, and naked a third part of its length. The leaflets are dark green, and very numerous, egg-shaped, and a little cut at the edges; they are usually distinct and distant, though sometimes a little wrapping over each other. There are ten or twelve little seed-cases on the back of each; these, when ripe, are black, and run into one another. When the frond begins to decay, the leaflets fall off, and leave only the fine black stalk, which gives rise, I imagine, to the name of "Maidenhair," which it sometimes receives.

OSMUNDA. (FLOWERING FERN.)

Generic Character. *Seeds* contained in a cluster of spikes, corresponding to the shape of the frond, and placed at the top.

OSMUNDA REGALIS. *Common Flowering Fern.* This is so very different from the rest, that it cannot be mistaken. In the first place it is very noble in size, being commonly seven or eight feet high, and has been found nearly twelve. In most cases it is erect, in large masses, so as to form a thick bush, at others and near water, gracefully pendant. The young fronds first appear in May, and arrive at maturity in August, and I have found it even earlier than this at the little village of Minsted, Sussex, where it grows abundantly in a damp wood. Its growth must therefore be very rapid. All the fronds do not bear seed; they are large, twice divided, and the upper one is composed of a cluster of spikes covered with seed: these appear to have been leaflets, but the seed has completely changed their appearance. Withering, the botanist calls this noble plant the "flower-crowned prince of English Ferns."

CHAPTER IX.

SEPTEMBER.

Though we have in this month some flowers to make the hedges gay, still there are but few that now make their first appearance, and consequently the list for the following months will be short. The summer flowers are fast disappearing, and we shall soon entirely lose them; but there are some new plants to be found, and no botanist must omit this last opportunity. After this period botany must be pursued in the house; and much remains to be done in arranging and studying the treasures procured during the summer.

Ferns are now in great perfection, and are an extremely interesting class of plants: their elegance, curious fructification, and beauty, (which they retain when dried,) will make them favourites. After a little study, the common kinds are not difficult to determine. I have mentioned the ten, most usually found in all neighbourhoods, and probably they will every one be discovered by the young and industrious student in the first season. If so, I advise the purchase of Newman's "History of British Ferns," which is a valuable little work, and of which I have made great use in these descriptions. The elegance of the genera *Asplenium*, and *Aspidium*, must delight every one; and when the curious seed-vessel is examined, and the species known, there will be much greater pleasure in meeting with them. The discoverer of the *Osmunda regalis* will be charmed with its noble appearance and fine fronds. There is, therefore, still something to interest those who do not shut their eyes to the works of the great Creator of all things.

TRIANDRIA. MONOGYNIA.

PETALOIDEÆ. IRIDACEÆ.

CROCUS. (CROCUS.)

Generic Character. See page 42.

CROCUS SATIVUS. *Saffron Crocus.* This species is extensively cultivated in Essex for its stigmas or pistils, which are called saffron; this being so small a portion of the plant, it may easily be imagined how many it must require to produce even an ounce weight of saffron. It is used as a medicine, and also in dyeing. Flower purple, the stigma protruded and drooping, and divided into three narrow pieces.

HEXANDRIA. TRIGYNIA.

PETALOIDEÆ. MELANTHACEÆ.

COLCHICUM. (MEADOW SAFFRON.)

Generic Character. *Flower* very long arising from a sheath, bell-shaped, divided into six.

COLCHICUM AUTUMNALE. *Common Meadow Saffron.* If a flower be found greatly resembling a crocus, but having six stamens, it is this plant. It is chiefly found in meadows and pastures in the north-west of England. The pale purple flowers arise from the bulb with a long narrow tube, surrounded with a sheath; but they do not perfect their seeds at this time of the year, for the flower withers and the seeds remain in the bulb till the next spring, when they rise up with the new leaves and ripen during the summer. This plan is contrary to other plants, and is very singular. The leaves are larger than those of the Crocus, and the tube of the flower much longer.

DIDYNAMIA. GYMNOSPERMIA.
COROLLIFLORÆ. LAMIACEÆ.

GALEOPSIS. (HEMP NETTLE.)

Generic Character. See page 341.

GALEOPSIS LADANUM. *Red Hemp nettle.* Found among gravelly, chalky, and limestone rubbish. The stem is not swollen under the joints, as in the *tetrahit,* and is about twelve inches high with opposite branches, leaves small, long, narrow, rather hairy, and slightly cut at the edges. Flowers purplish rose-colour, and the upper lip of the corolla slightly scalloped.

DIDYNAMIA. GYMNOSPERMIA.
COROLLIFLORÆ. LAMIACEÆ.

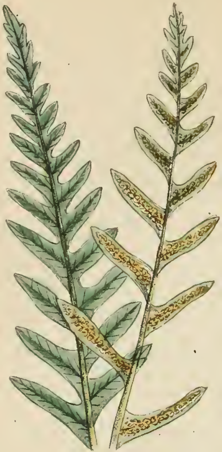
MARRUBIUM. (WHITE HOREHOUND.)

Generic Character. *Calyx* with ten ribs and five or ten spreading teeth, the throat hairy. *Corolla* with the tube pushed out; upper lip cloven in two, and narrow, lower one in three lobes, middle one the largest.

MARRUBIUM VULGARE. *White Horehound.* Waste places

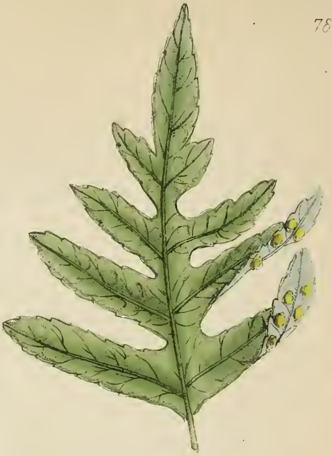
Plate 20.

77.



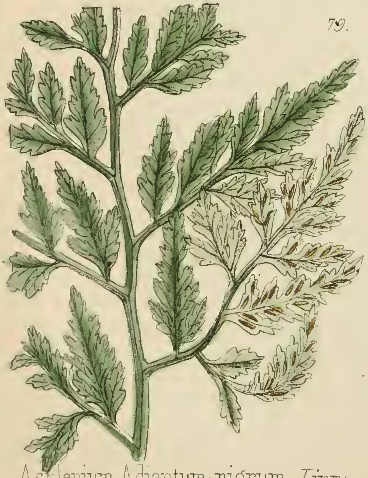
Blechnum boreale, *Swartz.*

78.



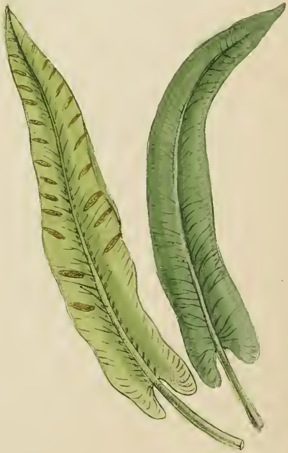
Polypodium vulgare, *Linn.*

79.



Asplenium Adiantum-nigrum, *Linn.*

80.



Scolopendrium vulgare, *Linn.*

Reeve, lith. et imp.

and way-sides, frequent in England. About a foot high, bushy; everywhere covered with a white, thick woolly substance, leaves roundish, toothed and wrinkled. Flowers small, almost white, in crowded whorls.

CRYPTOGAMIA. FILICES.

FOLIACEÆ. FILICES.

BLECHNUM. (HARD FERN.)

Generic Character. *Seeds* in cases which are long and narrow, parallel, and one on each side the rib of the leaflet.

BLECHNUM BOREALE. (Lomaria spicant.) (Plate XX. Fig. 77.) *Hard Fern.* A common species of Fern especially in a poor light soil, on heaths and commons. It is one of those species that has both fertile and unfertile leaves or fronds; that is, the fertile have seeds at the back, and some are always without. The seed covers the under-side of the little leaflets in the fertile frond, as they are very narrow, though broader in the barren leaf; they are only once divided, long and narrow, and hang gracefully drooping, when growing on banks or steep places, which they sometimes cover with elegant drapery. They first appear above ground in April, and the seed becomes ripe in August and September, the leaf continuing green and vigorous during the winter.

PTERIS. (Brakes.)

Generic Character. *Seeds* arranged so as to form a narrow border to the edge.

Pteris aquilina. *Common Brakes.* This is the most abundant and common of our Ferns, and covers almost every heath, wood, and forest in the kingdom. It is very variable, sometimes being ten or twelve feet high, though the general size is about three. The frond is triangular in shape, and the whole plant elegant; the roots are brown and velvety, and in the spring the young leaves or fronds come up bent or double; they are often destroyed by the late frosts, and in the autumn are killed as soon as the frosts set in, turning of a deep brown colour, but do not fall for some time. It is a useful plant in many cases, being mown down when dry, and used as fodder for cattle; also for packing fruit or fish. The ashes are useful in the manufacture of soap and glass.

POLYPODIUM. (POLYPODY.)

Generic Character. The *seeds* are in round masses placed along the leaflets.

POLYPODIUM VULGARE. (Plate XX. Fig. 78.) *Common Polypody.* Very common, found under almost every hedge, and on stone walls, and rocks. The young leaves first appear in May and June, and the seeds are ripe early in this month, but they remain green all the winter. It is an elegant, pendant plant, and often beautifully ornaments the stumps of old trees. It is long, narrow, and deeply divided into segments, upon which are placed the seed-vessels, which are yellow when becoming ripe.

ASPLENIUM. (SPLEEN-WORT.)

Generic Character. See page 352.

ASPLENIUM ADIANTUM NIGRUM. (Plate XX. Fig. 79.) *Black-stalked Spleen-wort.* Common on banks and rocks, but growing more luxuriantly on walls and ruins. The leaf does not appear before June, and arrives at maturity in September. When young it is erect, but becomes drooping. The leaf or frond is triangular, acutely pointed, divided into leaflets, each growing on the stalk alternately, the lower ones being again divided; they are all neatly cut at the edges. The seed-cases are oblong, placed alternately on each side the mid rib, and covered, when young, by a white scale like skin; but as the seed ripens, these open, and then the leaflet is covered with a mass of rich brown seed. The fronds are green throughout the winter. It is not so large as those before mentioned.

Asplenium ruta muraria. *Wall-rue Spleen-wort.* Abundant on walls and ruins throughout the country. Much smaller than the last species. The roots and stalks black; the little leaflets vary in form, but are mostly triangular or lozenge-shaped, and are more regularly divided into little leaves, than those of most ferns; the seed, when ripe, covers the back completely, making a dark brown mass. It may be found green throughout the winter.

CHAPTER X.

OCTOBER.

The observations made on the last month are equally applicable to this still more advancing season; for though a few flowers may yet be seen, not many new species will be discovered; but if the young student has been tolerably industrious and successful in procuring specimens, there will be sufficient amusement and interest in arranging the herbarium, examining the treasures procured, and perfecting the information acquired during the summer months.

PENTANDRIA. MONOGYNIA.
CALYCIFLORÆ. ARALIACEÆ.

HEDERA. (IVY.)

Generic Character. *Calyx* of five teeth. *Petals* broadest at the base. *Berry* with from three to five seeds, with the calyx at the top.

HEDERA HELIX. *Common Ivy.* This well known plant, so common on old buildings, trunks of trees, &c., is now in flower, and attracts the wasps and bees, and even the beautiful peacock butterflies, that are still to be seen on a sunny day; the flowers are not striking, being small and pale green, the berries smooth and black. The stems throw out roots, by which they adhere to hard substances. It is observed that it is only the unsupported branches of Ivy that produce flowers and berries; if the branch has root or tendrils, it has not flowers. *Helix* is the name given to it by Pliny; it means winding about or twisting. Sheep are fond of this plant. A variety called Irish Ivy is of very quick growth, and has larger leaves.

Syngenesia. Superflua.

Corolliforæ. Asteraceæ.

CONYZA. (Spikenard.)

Generic Character. *Involucre* roundish and scaled. *Receptacle* naked. Feather or pappus rough.

Conyza squarrosa. *Ploughman's Spikenard.* Frequent on chalky or clayey soil. Two or three feet high, leaves slightly downy, egg-shaped, long and narrow, cut at the edges, lower ones stalked. Flowers yellow, florets of the circumference very small.

Cryptogamia. Filices.

Foliaceæ. Filices.

SCOLOPENDRIUM. (Hart's-tongue.)

Generic Character. *Seed-cases* long and narrow, placed across the frond, which is not divided.

Scolopendrium vulgare. *Common Hart's-tongue.* (Plate XX. Fig. 80.) This fern is easily known, as it has its frond undivided. It is narrow, and sometimes found two feet long, very ornamental in hedges and banks, and from its peculiar form attracting notice. It makes its first appearance in April, and is erect, except the apex, which remains rolled up for some time, but at last becomes pendulous, arrives at maturity early in October, and remains green till the young ones again make their appearance. The seed-cases are long, narrow, and placed across the leaf in lines pointing to the mid rib.

CHAPTER XI.

NOVEMBER.

Flowering plants are now over, or so nearly that nothing new is to be found; still the pursuit need not be abandoned, as *Musci*, Mosses; *Lichenes*, Lichens; and *Fungi*, Funguses; may now, and during the winter, be found in greater abundance than at other periods of the year. They may be discovered at all seasons, but when more conspicuous plants are faded, these very curious and interesting families come into view. The botanist should not only notice and examine trees, shrubs, and flowers, but even the smallest plants; for he will discover beauties and wonders in every investigation, and find that the same mighty power is exerted in the formation of the merest atom of vegetable life, as in the highest work of creation.

I shall give in this chapter some little account of Mosses, but as there are two hundred and ninety species found in the British Isles, I cannot enter into details, but must refer the student to Dr. Hooker's work, called "Muscologia Britannica," which is entirely devoted to this family. These curious productions, some of which are so minute that it requires a good glass to see their construction, are found chiefly in damp and shady places; but they are not entirely confined to such localities, for some may be seen on thatched roofs, as *Tortula ruralis,* and *T. muralis,* on the tops of the driest walls. In dry seasons they become crisped and shrivelled, appearing lifeless, but a slight shower, or the evening dew will revive them; even those that have been some years in a Herbarium have been revived by immersion in water. The greater number exist, however, in moist situations. Boggy and marshy places abound in them, and our climate being damp and mild, Great Britain is peculiarly rich in these productions. Even the lofty Scotch mountains produce many very rare species. One of the most beautiful is the *Bryum alpinum,* tufts of which resemble purple velvet of the most brilliant colour. The soil on which Mosses will often grow is very remarkable. One is found only on the sides of pure chalk pits in Kent, and Sussex. Some are found on granite; others on calcareous rocks. One (*Funaria hygrometrica*) is found on old walls and buildings, and in dry and barren soils, but is sure to spring up wherever any substance has been burned, particularly where charcoal is made. It is wonderfully influenced by the state of the atmosphere, whence the specific name (*Hygros*, a Greek word, signifying moist or wet). The stalk of the seed-vessel is straight during wet or damp weather; but as soon as the air is dry, the stalk curls up most curiously, the seed-vessel is hid beneath the leaves, and by this means kept in a damp state. Some species (*Splachnum sphericum* and *mnioides*) are found only on the dung of animals, and particularly that of foxes. Dr. Hooker found *Splachnum angustatum* growing plentifully on the foot of an old stocking, near the summit of Ingleborough, Yorkshire; the same species was observed also on the half decayed hat of a traveller who had perished on Mount St. Bernard; and Captain Parry found it in the bleached skull of the Musk Ox, in Melville Island. A piece of leather, even, will often be found clothed with one of these minute plants. The trunks of trees are frequently covered with mosses, especially on the north side; they probably serve to protect the bark from severe cold, and insects are often found in great numbers beneath this soft covering.

They, therefore, like the other various productions of nature, serve more purposes than one, and prove to us how wonderful are all the works of their great and benevolent Author. Most of the Mosses are so minute, that their investigation is very difficult; some are scarcely visible to the naked eye, but their construction is as perfect as that of larger kinds. A few are considerable in size, even reaching the length of two feet; one (*Polytrichum commune*) is used in making brooms and hassocks; in Lapland it is very valuable. Linnæus says, "The Laplanders cut out a surface of this Moss as large as they please, for a bed, separating it from the earth beneath; and although the shoots are scarcely branched, they nevertheless are so entangled by the roots as not to be separated from each other. This mossy cushion is very soft and elastic, not growing hard by pressure; and if a similar portion of it be made to serve as a coverlet, nothing can be more warm and comfortable. They fold their bed together, tying it up into a roll that it may be grasped by a man's arm; and thus, if necessary, carry it with them to the place where they mean to sleep the night following. If it becomes too dry and compressed, its former elasticity is restored by a little moisture."

All species of Mosses have leaves, though in some they are only discovered by careful examination; when they are found remarkably varied in form and structure; the surface is smooth, not hairy. Some do not possess nerves like other leaves, but generally there is a single strong one running through the whole length, or two parallel to each other.

The flowers, or parts of fructification, either spring from the extremity of the stem, as in those Mosses which grow upright, or from the sides of the creeping kinds. These seed-vessels, as they may be called, are of most extraordinary formation; the organs seem to be of two different kinds; one produces a number of minute granules, which are considered as real seeds, and therefore called the capsule; the other is termed the anther, and produces a fertilizing substance. The former is generally in the form of a cup or box, and when mature, is the fruit; it is open at the top, but covered till fully ripe by a lid called operculum, which is of various forms, and at last falls off. Over this, in the young state, is what is termed the calyptra, which is shaped like an extinguisher, and covers the whole while growing; it is often split on one side, as if to facilitate the fall when the time arrives that its services are over. The mouth of the cup, or capsule, is, in some genera, quite plain and naked; in others furnished with a most beautiful and curious apparatus of teeth, or a membrane like a fringe. These processes are sometimes single, sometimes double. There are either four, eight, sixteen, thirty-two, or sixty-four teeth, no Moss having ever been found with an intermediate number; they seem as if placed there to aid in discharging the seed when it is ripe. These seeds are as fine as dust, and are only dispersed in dry weather, when the teeth are spread out; in a damp state of the atmosphere they close over the mouth of the capsule, and the seeds cannot escape. The capsule, when ripe, is of a horny substance, very variable in form, oval, round, four-sided, pear-shaped, &c., &c. There is a small bag within to contain the seeds.

Plants in the order *Jungermanniaceæ* are found principally in wet ground, near rivulets, on moist banks, and similar places, but are not entirely confined to such situations. They are also often met with amongst Moss, and on the decaying stumps of trees. They differ from the *Musci* in general appearance, from the substance being more transparent, and the leaves being less like true leaves, but more like scales. The parts of fructification are also very singular, for when ripe they split into four parts, and discharge the seed; this is only done when the atmosphere is dry, or when the sun shines upon them. Before this occurs the seed-vessel is globular. The seeds have among them a great number of little thread-like substances, which, when exposed to the sun, suddenly contract, and by that means cause them to fly in all directions.

This account, though very short, will, I hope, excite my readers to examine these very wonderful productions; they will be amply repaid for the trouble, and find that the most insignificant weed is worthy of inspection, as being the work of Him who not only "by his strength setteth fast the mountains," to raise our minds by their sublimity and grandeur; but also "clothes the grass of the field," to fill our hearts with love, by the minute yet exceeding beauty which pervades every part.

CHAPTER XII.

DECEMBER.

A BRIEF mention of Lichens, Funguses, and Sea-weeds, will form the last part of this branch of Natural History; the reader must refer to works devoted to this portion of the subject, when more information is required.

LICHENES. *Lichens.* The characters of the order are as follows. Aerial plants (not deriving nourishment from the soil). Leaves and stem combined, and spreading either horizontally in the form of a lobed irregular plate, or rising erect with irregular branches, having discs or shields which produce the seeds.

Lichens are very valuable in preparing the ground for more important vegetables; they retain much moisture, and even on the bare rock, upon which they are often fixed, will enable a few seeds of grass, and other small plants to grow. These wither, and in their turn afford nourishment to larger kinds, and thus a soil is formed by degrees on these otherwise barren spots. They themselves require no other nourishment than the moisture of the atmosphere; so that the root fixes them to the rock, but is of no further use. They grow almost everywhere, on stone and wood, as well as on the soil. Some few are eatable, as the *Cladonia rangiferina*, or Rein-deer *Moss*, as it is erroneously called, which not only forms the food of the useful animal from which it derives its name, but is used in this country medicinally. It has white stems, looking like wire, and forming a mass, which is seen on heaths amongst the green Moss. Others are used by the dyer. Various species appear as the weather-stains on old walls, and many beautiful kinds grow on rocks and stones. One found on the latter substance, of a green and yellow colour, is the *Opegrapha saxatilis*, or Map Lichen, as it resembles the marks used in delineating geographical plans. These are nearly flat on the surface of the stone, but others curl up curiously at the edges, and are of a bright orange, sulphur, or ashy-grey colour, constituting the genus *Parmelia*. Others cover the trunks of trees in winter, and are often called "Grey Moss," but they are of the Lichen family; the principal is *Lichen fastigiatus*. There are several hundred species of this order found in the British Isles.

FUNGI. *Funguses.* Aerial plants. No leaves or stem, but formed of a cap, the under side of which is either divided into lamellæ (thin plates,) or a substance resembling sponge.

A curious tribe of plants, of the same use as Lichens in preparing the ground for larger vegetable productions. They are parasitic, growing principally on dead wood, leaves, and decaying animal matter, reducing these substances to dust, and forming rich soils for the use of other plants, besides clearing away what is useless, or might be injurious, if the process of decay were very slow.

Some species are quite minute, others of large size. Of the former the Mould on cheese is an example; also the Rust in wheat, which is a fungus growing on the inside of the grains. The Dry-rot in wood is also a species of this family. It is very destructive to ships, and the timber of houses. A few are good for food as Mushrooms, Truffles, and Morels: the former is well known; the two latter grow under ground, and dogs are taught to hunt for them by the smell, which is powerful. When thoroughly made to understand the scent, they will scratch on the ground underneath which they grow, and thus bring their situation to light. The Mushroom may be distinguished from the Toadstool by the lamellæ, or divisions on the under side of the cap being pink, when young, and becoming brown in an old state. There is an immense variety of Fungi, many very handsome in appearance, being crimson, bright orange, or the most delicate dove colour, and of all shades. A few have an exceedingly unpleasant smell, and may be discovered by this means in the woods where they grow. In form they differ much; many are very elegant, being like a miniature parasol; others much thicker and rounder at the top; some appearing to have no stalk, a mere round ball. The interior of some genera is divided into lamellæ, or thin plates, as in the Mushroom; in others it has many pores, and forms a substance like sponge.

ALGÆ. *Sea-weeds.* Plants growing under water, both fresh and salt, with the stem and leaves combined into lobed divisions, some so fine as to resemble hair.

A few of the plants of this order are found in fresh water, as the green slimy matter in ponds. *Ulva thermalis* grows in hot springs also; but the Sea-weeds are much more interesting, and we will confine our attention to them. They are often passed over as of little importance, but many are distinguished for their beauty as well as their utility. Algæ exist in all parts of the ocean, but they vary in different regions. They are in general attached to various substances, such as stones, rocks, shells, &c., though some are always free and floating. The usual colour is olive-brown, or green, but many are of a brilliant red, and others nearly black. They differ as much in size as terrestrial plants, some attaining a great length. The *Chorda filum*, found in bays of the Orkney Islands, is occasionally thirty or forty feet long, often impeding the passage of the fishermen's boats. An American species has been procured which measured a thousand or fifteen hundred feet. They must grow with great rapidity, for rocks that have been completely cleared are found again covered in six months, and some of the specimens had grown six feet long during that period.

From several species of Sea-weeds *Kelp* is derived, which is of such use in the manufacture of glass and soap. They are reduced to ashes by burning, and this gave formerly to very many poor people an employment, which was the principal means of support in the Hebrides; but lately a superior kind, procured from a plant growing on the coast, has been brought from; Spain and the demand for kelp has much decreased.

Many Sea weeds are used for food; the *Rhodomenia palmata* is called *Dulse* by the Scotch, and *Dillesk* by the Irish, and is eaten in both countries. One or two species of *Porphyra* and *Ulva*, are brought to table under the name of *Laver*; also *Alaria esculenta* known in Scotland by the name of *badderlocks* or *honey-ware*. In Ireland the *Chondrus crispus*, called Irish Moss, is an article of food. It forms a kind of *blanc-mange*, which is very strengthening. The *Fucus vesiculosus*, which is so very common on all our coasts, produces, by burning, the valuable medicine called Iodine, which can also be procured from sea-water. All Sea-weeds are useful as manure, and are, therefore, extensively gathered for that purpose.

I will close this account with a description of an easy method of preserving Sea-weeds, particularly the delicate kinds; and a collection nicely preserved and arranged, is very interesting. The specimens being brought home (and it is of no consequence if they have shrivelled or become dry, as they soon expand again when placed in water) must be put one by one into a large basin of clean water. Have ready writing paper divided into pieces, (a quarter of a sheet is a convenient size); then, when the weed is nicely expanded, and the dirt washed from it, place under it the piece of paper, and when arranged as required, raise them both out of the water; then drain off the wet, and place them between two dry sheets of common paper, subjecting them to a slight pressure. The Sea-weed will adhere to the paper, causing no further trouble, and the specimens may be arranged in a book of blank leaves, the name being procured, if possible.

I have thus brought to a conclusion this brief summary of a most interesting study, and when my readers have fully mastered its contents, I feel convinced they will not rest satisfied, but eagerly desire to gain more knowledge on the subject; for which information it will be necessary to consult those more learned and elaborate works, which the insight they have now acquired will enable them to understand and appreciate; and if this little volume assists in cultivating a taste for a rational, innocent and ennobling pursuit, its purpose is completely answered, and the ambition of the author fully gratified.

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